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OCCLUSIVE DRESSING VERSUS EXPOSURE METHOD IN TREATMENT OF THERMAL BURNS*

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THE CURRENT RACE in production of atomic weapons suggests that, at some future date, thousands of burn casualties may be anticipated following atomic explosions. Prime targets would be various strategic cities and mass concentrations of troops. Since approximately 50 to 60% of all casualties resulting from such an explosion will receive thermal injuries, it is of considerable importance to investigate the results obtained by methods of treatment of burns which would be economical of both materials and personnel.

Until a few years ago most forms of local therapy used in the treatment of burned patients were variations of the widely popularized vaseline gauze pressure dressing introduced by Allen and Koch¹ in 1942. Simultaneously with the use of the pressure dressing, greater attention was paid to replacement of destroyed red blood cells, restoration of disturbance of plasma and electrolyte balance, and early skin grafting of areas of third degree burns. In spite of marked decrease in burn mortality obtained by these innovations in therapy it soon became evident that for the treatment of mass casualties it was necessary to revise traditional methods of burn therapy. Therefore, research was instituted in numerous medical centres throughout this continent into the development of plasma expanders, enzymatic debridement of burns, new techniques of local therapy, and other problems. In spite of general usage of the occlusive pressure dressing for the past decade, many surgeons employing this method for the treatment of burns have noted certain inherent disadvantages. These may be listed as follows.

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DISADVANTAGES OF OCCLUSIVE DRESSINGS

(1) The dressings require much storage space and periodic resterilization. (2) Application of the dressings requires a moderate amount of time and a fairly high level of training of personnel. (3) If too tightly applied they may cause a tourniquet effect or nerve damage resulting in permanent injury to an extremity. (4) Respiratory movements of the thorax and abdomen are restricted. (5) Hyperthermia has been observed when a large area of the body is covered with pressure dressings. (6) The dressing must be removed to inspect the lesion. (7) In extensive, deep second degree burns with much plasma exudate the dressing may soak through after a few days and no longer prevents ingress of bacteria from the outside.

ADVANTAGES OF OCCLUSIVE DRESSINGS

(1) This thick dressing provides protection from cold, bacterial and other contamination. (2) When thermal burns are combined with fractures it may be reinforced with splints to provide protection for combined injuries.

GENERAL THERAPY

In management of thermal burns prevention and treatment of shock takes precedence over local therapy. The extent and depth of the burned area bears a direct relationship to the susceptibility to shock. Shock should be anticipated in all burns over 10% of body area.⁴ Burns of 10 to 20% except in children may usually be treated by electrolyte solutions only. If the burned area is more than 20%, colloids are required and should consist of equal amounts of whole blood and plasma if possible. Very young and aged patients are more liable to suffer from shock than healthy adults. Burns of the face, abdomen and buttock, although limited in area, sometimes result in shock. Furthermore, the co-existence of any systemic diseases will reduce the vitality of the patient.

In estimating the extent of burned areas Berkow's scale has been modified by Wallace.⁸

He proposed the "Rules of Nine" which divide the body into areas of nine or multiples of 9% of the body surface (Table I). On the basis of this table the amount of colloid, electrolytes and fluid to be administered can be easily determined by the formula of Purnell and Evans.⁶ In the first 24 hours following thermal injury the patient receives 1 ml. of blood or plasma per kilogram of body weight for every per cent of body surface burned, and an equal amount of electrolyte solution. At least 50% of colloid given should be in the form of whole blood. It is advisable to give one-half the total estimated requirements of the first 24 hours in the first 8 hours following the burn, one-quarter in the subsequent 8 hours, and one-quarter in the last 8 hours. To this amount is added 2,000 ml. of dextrose in water in the first 24 hours to replace insensible water loss.

During the second 24 hour period, the colloid and electrolyte requirements are roughly one-

TABLE I.

RULES OF NINE: WALLACE (MODIFIED)	
Area	Percentage
Head and neck.....	9
Upper extremity (each).....	9
Anterior trunk.....	18
Posterior trunk.....	18
Lower extremity (each).....	18
Genitals and perineum.....	1

half the total amount for the first 24 hours. The same amount of dextrose and water is given. Although the total amount of fluid to be administered per day can be estimated by formula, the most satisfactory method of determining the rate of fluid replacement therapy is to observe the output of urine each hour. An indwelling catheter should be used in patients with burns over 20% of the body surface. The rate of fluid administered should be such as to maintain an output of 40 to 60 ml. of urine in adults each hour. If the output of urine falls below this level, the rate of fluid administration should be increased, and if it rises above 100 ml. per hour the intake should be restricted. The required urine output per hour is proportionately reduced in children (Table II).

Morphine, anti-tetanus serum, oxygen by nasal catheter, and a diet high in protein, calories and vitamins should be provided when and as indicated by the condition of the patient. Large quantities of appropriate antibiotics should be

administered systemically as soon as possible. It has been shown that they exude in very considerable quantities in the plasma escaping from the burned surfaces and that bacteriostatic levels are obtained against most hæmolytic streptococci and hæmolytic micrococci which predominate the bacterial flora of recent burns.

LOCAL TREATMENT

The local care of the burn wound is the same whether the exposure method or pressure dressings are to be applied. The patient is taken to the operating room and all clothing or dressings are removed, employing aseptic technique. Both the patient and attendants are masked. Gross dirt or oil is removed from the burned area with large quantities of warm sterile water and hexachlorophene, cetavlon or white soap on cotton balls or sponges. Blisters are drained and rolls of loose epithelium are removed. Cleansing is carried out with a minimum of trauma to the exposed

TABLE II.

REQUIRED URINE OUTPUT FOLLOWING BURNS	
Age	c.c. per hour (average) *
4 to 7 years.....	25
7 to 10 years.....	30
10 to 14 years.....	33
Over 14 years.....	50

dermis. After local therapy of the burned surface has been completed the patient is placed in bed on clean sheets in the position which completely exposes the burned part if the open-air method is used or wrapped with bulky dressings if the pressure dressing technique is employed.

EXPOSURE METHOD

Apparently the exposure method was first described by Copeland³ in 1887. It was again reported by Sneve⁷ in 1905. This procedure did not gain many adherents before the era of antibiotic therapy, probably because of difficulty in controlling infection and also due to the fact that skin grafting techniques were primitive and usually delayed too long. This resulted in suppuration, serious systemic reactions and late burn contractures. Recent experience^{2, 5, 9} with this method has shown that various parts of the body can be quite satisfactorily exposed by different methods of elevation or suspension so that

contact with bed clothing or other objects is prevented.

Lower extremities.—The method of fixation varies with distribution of the burns. Children with burns of the buttocks and upper parts of the thighs tolerate a gallows suspension splint very well. When the entire circumference of the legs has been burned they must be elevated so that there is no contact with bed clothes. The feet and ankles are not involved in most burns of the lower extremities and the weight of the

prevent contraction of the crust, ischaemia and possible necrosis of the fingers. When almost the entire upper extremity is involved it is possible in most cases to support the limb by sterile linen slings or other supports at some points which are not seriously damaged. For example the palm is frequently only slightly involved and a sterile, padded support placed in it will aid in elevating the arm without jeopardizing healing of the hand. Suspension of the hand and arm may be obtained by passing steel sutures through the

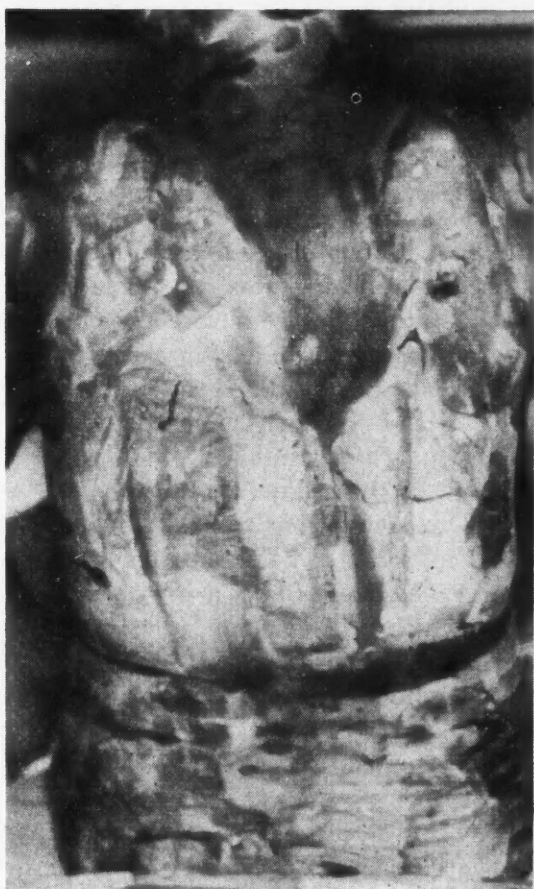


Fig. 1



Fig. 2

Fig. 1.—A patient with 55% fire burns of the face, neck, arms, trunk and buttocks 7 hours after the accident. Clinically, it appeared that at least one-half of the skin of the back and buttocks should survive. Fig. 2.—The same patient 6 weeks later. Almost the entire skin of the back and buttocks has sloughed. It was felt that a very considerable percentage of this loss was due to pressure of the patient's body, maceration and infection. At present no satisfactory method of treating girdle burns of the trunk by the open-air method has been developed.

legs may be supported by resting the feet on sponge rubber pads placed on an adjustable stand. The stand may be raised to obtain complete exposure of the affected areas. In this fashion, burns of the legs up to the buttocks and perineum can be successfully treated.

Upper extremities.—Burns of the hands and forearms may be treated by keeping the elbows flexed and the hands elevated. If the fingers are deeply burned circumferentially, it may be necessary to split the eschar longitudinally to

nails and attaching them to a spreader. Some of the weight may be supported too by a sling around the upper arm.

The trunk.—Only one side of the trunk may be successfully treated by the exposure method. With a co-operative patient it is possible to expose a burn involving the back, one side and part of the abdomen by positioning the individual on one side (Figs. 3 and 4). However, circumferential burns of the trunk are not suitable for treatment by the exposure method at present

(Figs. 1 and 2). The special burn frame with padded, removable sections described by Wallace may be the solution to this problem. It has been suggested that circumferential burns of the trunk may be treated by placing the patient on one side and allowing a crust to form on the opposite side. Then the person lies on the dried

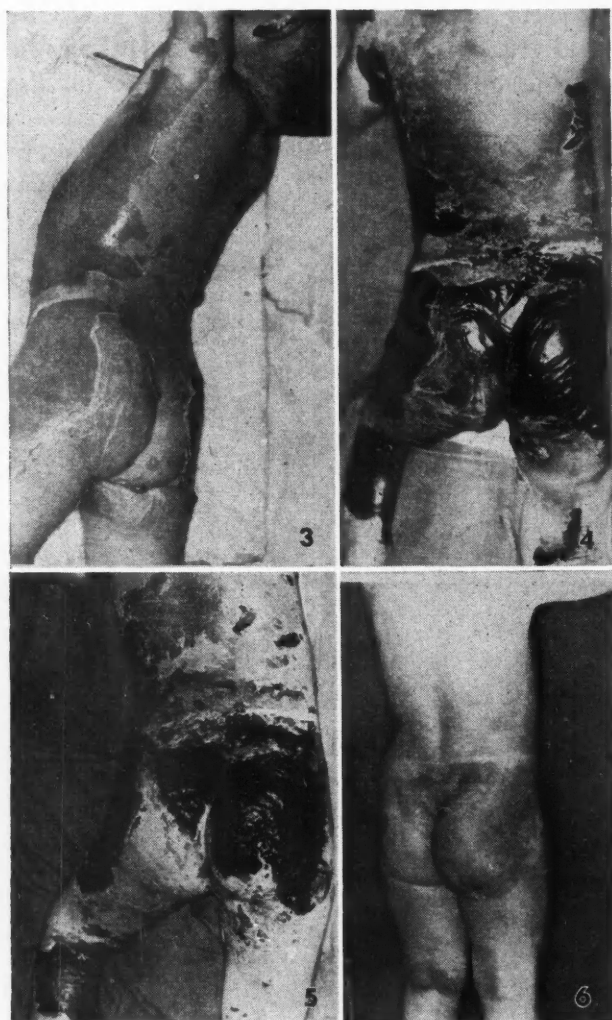


Fig. 3.—This two and a half year old child suffered severe scald burns of the back, part of the abdomen, buttocks and thighs. The picture shows large areas of exposed dermis, sheets of rolled-up epithelium and blebs 2 hours after the accident. Anti-shock therapy was commenced and a retention catheter inserted to record urinary output. Fig. 4.—Three days after the accident a hard, brownish crust had formed and exudation of plasma had ceased. This photograph was taken 7 days after the burn. Fig. 5.—The thick, hard eschar has begun to separate 14 days after the injury, exposing regenerated epithelium. Fig. 6.—The patient was discharged from hospital one month after admission with all burned areas completely healed. These photographs show the patient 2 months after the accident. No skin grafting was required although the burns of the buttocks and thighs were quite deep. No hypertrophic scar formation was present.

eschar and a crust forms on the moist, previously unexposed side. Subsequently the patient must be turned frequently. In our experience this procedure is followed by maceration, cracking of the eschar and early infection.

The head and neck.—The exposure method is particularly suitable for these areas and prompt healing occurs unless the burns are very severe. If the eyelids have been deeply burned tarsorrhaphy should be performed early to avoid the formation of corneal ulcers, and skin grafts applied as soon as possible. Any discharge from eyes, nose or mouth is carefully removed at intervals. The neck should be kept in hyper-extension.

RESULTS

During the past two years all acute burn patients suffering from thermal injury serious enough to require hospitalization have been divided into two groups. One was treated by occlusive dressings and the other by the open-air method. Both adults and children were included. Any patient admitted to hospital more than two days after burning was not included in this series. Burns due to electricity, chemicals or irradiation were excluded. Similarly, outdoor patients were not considered suitable for study because of the obviously minor degree of injury. Forty-five cases fulfilled the requirements selected for this study (Table III).

The exudate from partial thickness burns begins to dry 12 to 24 hours after the injury and in 48 to 72 hours forms a dry, hard, brownish crust which provides an adherent protective cover for the burn wound. In areas of partial thickness burn the crust separates spontaneously in from one to two weeks, while in deep, partial thickness burns it separates in two to four weeks. After three days, areas of third degree can often be detected because the eschar dehydrates and becomes translucent so that the subdermal fat can be seen. The crust also sinks below the level of the surrounding less seriously damaged skin. In ten to fifteen days the eschar should be excised surgically, and in most cases will be found ready for skin grafting immediately or in a few days. If the eschar is allowed to remain too long, pus will collect beneath it and spread laterally, undermining the eschar progressively until it is removed and drainage provided. When cracks develop in the crust, usually about joints, these should be excised and wet dressings applied to the raw area only, in preparation for skin grafting. There is no foul smell usually associated with burn patients when the exposure method is used.

Infection, maceration due to moisture, oedema

and continual pressure of the body resting on the burned part, all definitely contribute to conversion of partial skin loss to full thickness skin loss. These factors are either absent or reduced to a minimum in the exposure method. A not inconsiderable advantage is the fact that the burned area is visible for inspection at all times, and that by repeated observation it is possible to predict the extent of areas of full thickness skin loss with considerable accuracy and to prepare for early skin grafting.

We have found it simpler to excise the hard eschar of third degree burns surgically, which can be done with little bleeding between the 10th and 20th days than to employ chemical or enzyme debriding agents. Although the number of patients is limited it was noted that fewer patients required skin grafting than in the group

tients are more comfortable once the crust forms.

2. Plasma loss from the surface is minimal after the crust forms. Formation of a firm crust usually requires 48 to 72 hours and occurs more rapidly in a cool room.

3. The desquamation of the crust over first and second degree burns occurs in 10 to 20 days and is usually followed by unimpaired function of the part.

4. Although hyperthermia may occur, it is less common than when occlusive dressings are used.

5. A sharp line of demarcation forms over areas of third degree burn. The crust sinks below the normal level of surrounding tissue and later fluctuation of pus becomes evident, permitting early removal of the crust and preparation for grafting of the raw area.

6. Minimal nursing care is required after the

TABLE III.

<i>Extent of burns</i>	<i>Method of treatment</i>	<i>Length of hospitalization</i>	<i>Skin grafting</i>	<i>Temperature over 100° F.</i>	<i>Total blood and plasma</i>
Major burns (over 20%)	Pressure	119 days	100%	44.5 days	10,237 c.c.
	Exposure	40 days	40%	22 days	5,465 c.c.
Minor burns (under 20%)	Pressure	17 days	15%	2.2 days	0
	Exposure	12 days	0	2.6 days	0

A total of 45 cases was analyzed. Major burns totalled 18% (the largest being 55%), while 82% were minor burns. Last year 54% of patients were treated by exposure and in 46% occlusive pressure dressings were employed.

treated by occlusive pressure dressings. Moreover, the exposure group required less blood and plasma, there was a shorter period of elevation of temperature over 100° F. in major burns and the period of hospitalization was shorter. In a large general hospital this latter advantage is of considerable importance. The appetite of patients in the exposure group is better; probably due to the absence of burn odour, sepsis, and lack of constricting dressings about the abdomen when the trunk is involved in thermal burns. Hospital authorities cannot fail to be impressed with the reduction in cost when expensive occlusive dressings are dispensed with, and the fact that the open-air method requires a minimum of nursing and professional man-hours. These advantages would assume considerable importance should it suddenly be necessary to treat a very large number of burn patients.

ADVANTAGES OF EXPOSURE METHOD

1. Infection is less common than with occlusive dressings, there is no foul odour, and pa-

crust forms and expenditure of surgical dressings is eliminated.

DISADVANTAGES OF EXPOSURE METHOD

1. Circumferential burns of the fingers and toes may develop a tourniquet effect by contraction of the crust. The eschar must be split if interference with the blood supply is to be avoided.

2. Circumferential burns of the trunk are not suitable for treatment with exposure method.

SUMMARY

Results of the exposure method were compared with the occlusive pressure method of treating thermal burns. A total of 45 cases was analyzed.

1. It was found that in both major burns over 20% and in minor burns under 20% of the body area length of hospitalization was shorter and fewer patients required skin grafting.

2. The period of elevated temperature was decreased in major burns and the amount of blood and plasma transfused was reduced.

3. The open-air method when indicated is ideal for treatment of patients with burns in hospital. Development of certain new modifications may permit this method to be used successfully in the management of mass casualties.

4. Due to less infection, œdema and maceration there appears to be less formation of hypertrophic scar tissue after healing of the burns.

Patients were made available for study through the courtesy of Drs. G. Gavin Miller, J. C. Armour, A. L. Wilkie and H. L. Dawson.

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TULARÆMIA IN
NORTHWESTERN ONTARIO

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IN 1952 A REPORT was published by Wood¹ on the incidence of positive agglutination tests against *P. tularensis* in the Indian population of Manitoba and Northwestern Ontario. This report stated that 2,940 such tests were carried out and that 244 or 11.7% were positive. The titres were of varying degree and a considerable number were 1:100 or greater. These results were such as to suggest recent or present infection in many cases, but it was stated that no clinical cases had been reported at that time. The above quoted figures were obtained during 1950-51. 169 Indians with positive agglutination tests included in the above series belonged to the area of the population to be discussed here.

The present study is based on a careful perusal of available records of cases admitted to the Sioux Lookout Indian Hospital from the winter of 1950-51 until the present time (April 1953), and who had positive agglutination tests. Specimens of blood were taken on many admissions during this time and examined for agglutination of *P. tularensis* by Dr. Allin of the Ontario Department of Health laboratory at Fort William. In some cases previous titres were known because of field surveys done at random. In others more than one test was performed in hospital and, finally, there were a number who had been admitted more than once in the period and tests had been carried out each time.

It should be mentioned that the field personnel of the Indian Health Service are extremely

conscious of the tuberculosis problem in Indians, and people who show evidence of a disease of any severity, and particularly of some duration, are frequently brought to hospital for investigation with special regard to pulmonary tuberculosis. This applied to a number of the following cases. It is also worthy of note that to obtain a satisfactory history from an Indian is only too often an exhausting and frustrating experience which at times produces no results. He is by nature stoical about sickness and when he complains about pains and other symptoms they generally mean something.

Table I shows data concerning 32 patients who had positive agglutination tests for *P. tularensis*. The frequency of the symptoms of respiratory infection with bloody sputum, abdominal pains sometimes located in the splenic area, headache, epistaxis, vomiting and diarrhœa, and evidence of urinary infection is quite striking. It is noteworthy that there has only been one case of glandular abscess and one case of hand infection admitted to hospital. There is some indication that tularæmia may result in tonsillar and middle ear infection. Three cases showed eye signs of conjunctivitis and corneal ulceration.

Radiological findings.—The chest film was remarkable in 14 cases. The commonest feature was the occurrence of either linear or fan-shaped densities extending out from the lung roots. The bases were most frequently involved. These shadows were often diffuse and hazy in nature, but sometimes very dense patchy lesions were seen. The radiological picture was often suggestive of atypical pneumonia, and this difficulty in diagnosis was aggravated by the finding of a leukopenia in many cases of typhoidal tularæmia.

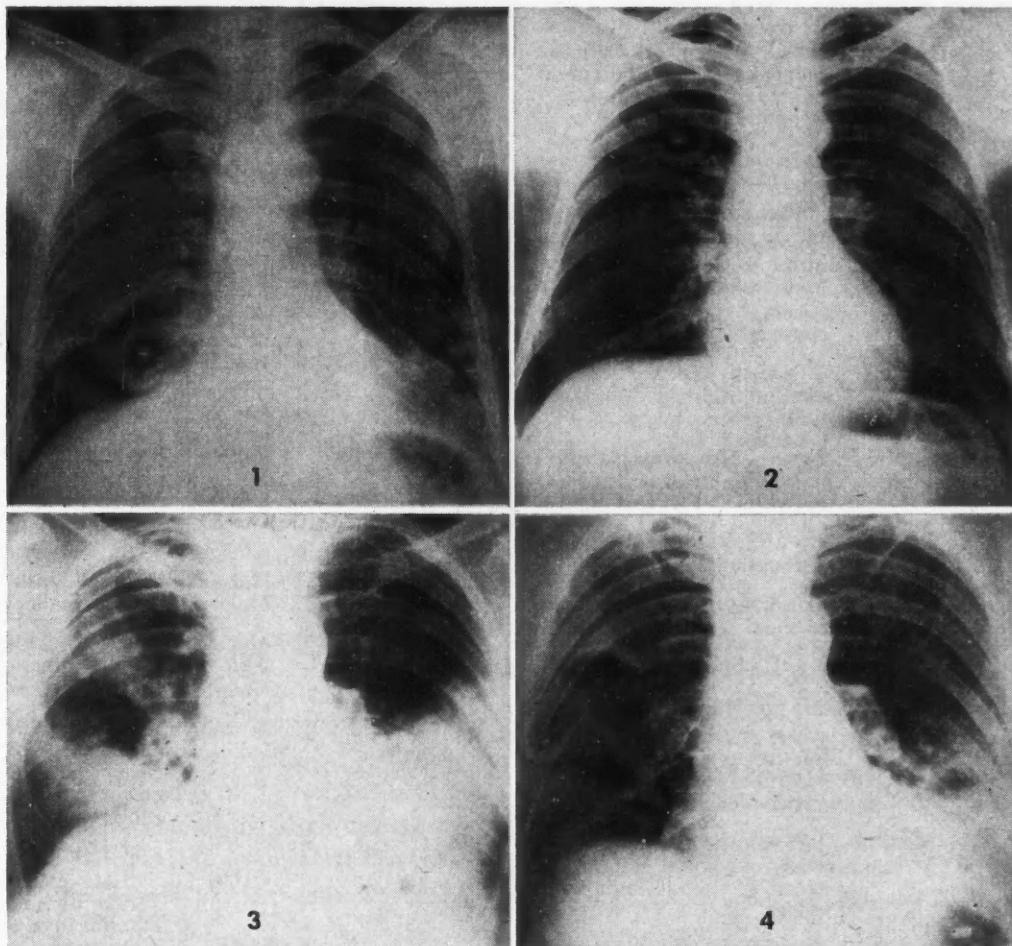
Figs. 1 to 6 illustrate some of the findings.

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DISCUSSION

It is apparent from these findings that tularæmia in Northwestern Ontario Indians has

manifested itself in most instances as a generalized systemic infection of a typhoidal type. Respiratory symptoms have also been prominent



Figs. 1 and 2. (Case 2).—Fig. 1, January 1, 1953, shows linear density running from right root to periphery, and a broader infiltration in the left base. Fig. 2, January 26, 1953, shows clearing of both shadows. Titre 1:200. **Figs. 3 and 4.** (Case 23).—Fig. 3, March 9, 1951, shows the large infiltrations extending out from both roots. Fig. 4, April 3, 1951, shows considerable clearing of these lesions. Patient was given penicillin without any certain effect. Admission titre only was done, 1:25.

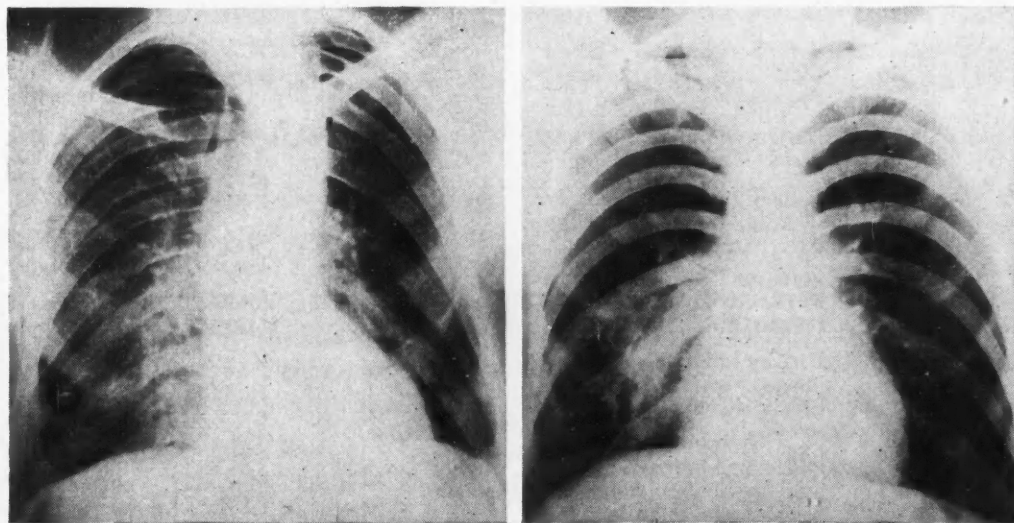


Fig. 5

Fig. 6

Fig. 5. (Case 13).—Film of February 29, 1952 shows widespread mottled shadowing in the right lung field and large hazy areas in the left lower zone and base. Titre 1:200. **Fig. 6.** (Case 29).—Film of February 19, 1952 shows infiltration extending out from the right root. Titre 1:800.

TABLE I.

Case No.	Admission date	Date and titre	Symptoms and history where available	Case No.	Admission date	Date and titre	Symptoms and history where available
1	Nov./52	Nov./52 1:200	1½ months' history. Pains in chest. Epistaxis. Headache. Some nausea and vomiting. Upper abdominal pain. Low grade fever.	17	Feb./52	Feb./52 1:100	Infected cut lower right leg. Swelling and pain in knee joint.
2	Jan./53	Jan./53 1:200	"Sick" with rash before admission. Coughing and bloody sputum since. Epistaxis.	18	May/52	May/52 Neg.	Lower abdominal pain. Urine showed pus and blood. Short course streptomycin.
3	Nov./52	Nov./52 1:100	1½ months' history. Pain in left upper abdomen and lower chest. Tender over spleen. Blood streaked sputum. Coughing.		May/52		Seen shortly for review.
4	Jan./53	Jan./53 1:400	1 month history. Painful swelling right axilla (glandular abscess).		Jun./52	Jun./52 1:400	Pain in right lower quadrant. Pains in legs, fever, headaches. Urine showed "bacilli". Frequency. Responded to streptomycin.
5	Dec./51	Apr./51 1:100	Fever, headaches, vomiting-dark brown emesis, diarrhoea.	19	Jun./51	Jun./51 1:400 Jul./51 1:200	Fever. Pains in chest, bloody sputum. Blood and pus in urine. Responded to streptomycin. 20 days hospitalized.
6	Feb./51	Feb./51 1:400	Recurrent abdominal pain. Urinary infection marked.	20	Jan./51	Feb./51 1:400	Breast abscess (non-lactating). Blood and pus in urine.
7	Oct./51	Mar./52 1:200	Considerable enlargement cervical glands. Hospitalized until Jul./52 on streptomycin.	21	Mar./51	Mar./51 1:50	"Septic" rash of face and hands. Headache. Epistaxis.
8	May/51	Jun./51 1:100	1-2 months' history. Fever, pains in chest, weakness, left upper abdominal pain, diarrhoea for 1 week. Epistaxis. Headache.	22	Mar./51	Mar./51 1:25	Coughing of bloody sputum. Chest pains. Intermittent fever one week.
9	May/51	May/51 1:25	1-2 months' history. Pain in abdomen and chest. Pain on micturition. Tender over spleen.	23	Mar./51	Mar./51 1:25	Coughing and fever. Temp. chart showed temp. to ladder down over 10 days despite penicillin therapy. Blood and pus in urine.
10	Oct./51	Oct./51 1:100	Tonsillitis, Conjunctivitis and corneal ulceration.	24	Oct./52	Oct./52 1:100	For T.B. investigation following suspicious survey X-ray findings. Neg. for T.B. on investigation.
	Jan./52	Jan./52 1:25	Recurrent corneal ulceration and conjunctivitis.	25	Feb./51	Feb./51 1:50	"Sores" on backs of hands. Blood and pus in urine. No description of sores available.
	Mar./52	Mar./52 Neg.	Otitis media.	26	Feb./52	Feb./51 1:200	Coughing and much sputum. No other details.
11	May/52	May/52 1:800	Severe infection thenar space right hand. Incised and drained.	27	Apr./51	May/51 1:50	Pneumonia. Not typical and cleared slowly. Pus and blood in urine.
12	May/51	May/51 1:100	History of upper abdominal pains.	28	Jan./52	Jan./52 Neg. May/52 1:50	Coughing and bloody sputum. Hospitalized for some time.
13	Feb./52	Feb./52 1:200	Pain in left lower chest for over a week. Coughing. Severe headaches.	29	Feb./52	May/52 1:800	Coughing and bloody sputum.
	Aug./52		Persistent headaches since winter. Night sweats. Occasional pains in legs.	30	Feb./51	Mar./51 1:200	Severe pains in face around left eye. Conjunctivitis and ulceration of cornea. Febrile.
14	Mar./53	Mar./53 1:400 Apr./53 1:25	History of recent febrile illness. Severe headaches, general malaise. Some epistaxis.	31	Jul./51	Jul./51 1:200	Pains in right side of chest. Great swelling of face and gums on right side.
15	Jul./51	Jul./51 1:50	Pains in chest and abdomen, headaches, cough and hæmoptysis. Sweating, corneal ulceration. Fever.		Feb./52	Mar./52 1:200	Persistent headaches. Right ear discharging. Bloody purulent discharge.
16	Jan./52	Jan./52 1:25	Coughing, prostration, fever, emesis.	32	Mar./51	Mar./51 1:50	Coughing and raising sputum for some time.

but one is not impressed that an acute and entirely pulmonary tularæmia has occurred.

The effect of the presence of a disease like tularæmia in an area where pulmonary tuberculosis is common and where tuberculosis case finding is active is extremely serious. Complaints of coughing and raising of bloody sputum, prostration and fatigue, may well lead to the suspicion of tuberculosis in many cases. The duration of the illness has often tended to strengthen the suspicion of tuberculosis and suspects have been brought in to hospital because of this factor.

The development of nursing stations in some localities has been of great value in this problem. More specific information was available there and treatment could be given in the field. Even so, patients with more or less acute respiratory illnesses have been seen who did not respond to penicillin or the sulfonamides, and again the likely result was the air transport of cases to hospital for fuller investigation.

If, as appears probable, tularæmia continues to persist in the beaver population, and human cases continue to occur, then we are faced with a continuing grave problem. The wide use of streptomycin in the field is undesirable for many reasons, not the least of which is the possibility of developing streptomycin-resistant strains of tubercle bacilli. This is of considerable impor-

tance in Indian people because it is presumed that there are significant numbers of individuals with lesions of doubtful stability and there is some evidence that tularæmia with pulmonary involvement may have led to a breakdown of these lesions in certain cases. (This group has not been included in this paper).

In conclusion it would seem that tularæmia can be a disease which may be confused with many other conditions. If it is considered only as an ulcero-glandular or oculo-glandular process then many cases will be missed. Pulmonary symptoms may be prominent, and chest x-ray findings suggestive of atypical pneumonia.

SUMMARY

1. Data is given on 32 cases suggesting that tularæmia has occurred in clinical form in North-western Ontario Indians.

2. The clinical cases have been largely typhoidal and/or pneumonic in type, but focal infections of the tonsil and middle ear may be related. Eye infections have occurred.

3. Radiological findings are given.

4. Tularæmia presents a difficult diagnostic problem, especially in a native population where pulmonary tuberculosis also occurs.

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INTRAMUSCULAR AQUEOUS HEPARIN

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THE USE of heparin is controlled by simple clotting time determinations. Intramuscular heparin is easily given by ward nurses. The following study was undertaken to see if routine use and bedside control of intramuscular aqueous heparin would prove satisfactory in our hands. It is realized that some of the "intramuscular" injections may have been given deeply subcutaneously.

Dosage of heparin.—According to Jaques: "Ideally the dosage of heparin should be determined by the amount of the drug required to prevent thrombosis in the patient undergoing

treatment. To date the fundamental data necessary to make any recommendations in this regard are lacking."¹ In the absence of such data dosage can be related to body weight as was done by Stats and Newhoff.² But there is evidence demonstrating variations in sensitivity to heparin from person to person.³ Even in the same individual response is altered by factors such as thrombosis and the postoperative state.^{4, 5, 6} Nevertheless a simple routine for intermittent intravenous injections has been evolved by the Swedish workers.⁷ "Usually four injections daily were given 50 & 50 & 50 & 100 mgm. or 75 & 75 & 75 & 125 mgm." Notwithstanding variations in sensitivity, the efficiency and safety of the method have been established by the considerable number of cases treated. Provided absorption is regular it is possible to suppose that a simple routine dosage of aqueous intramuscular

heparin may also prove satisfactory. Shortly after our first use of intramuscular depo-heparin the paper by Baker, Warren, and Belko⁸ was published. A dose of 40 to 50 mgm. of concentrated aqueous heparin given deeply subcutaneously every four hours resulted in clotting times of between fifteen and fifty minutes and this could be maintained up to twelve days. The authors were very satisfied with their simple routine. Abrahams⁹ has recommended the following equally simple routine: 1 ml. of an aqueous solution of heparin, 25,000 international units per ml., is to be injected every twelve hours.

Pending investigation of this hypothesis, clotting time determinations will continue to be used as a guide to efficient and safe dosage. The

treatment 15 to 50 minutes. However, trauma either at operation or from intramuscular injection is more than normally liable to the complication of hæmatoma formation.

METHOD OF STUDY

The cases reported are those of patients seen in the routine of our practice and of patients referred to us by our colleagues. After our experience with Cases 5, 6, 7 and 8, similar cases of myocardial infarction were excluded.

Clotting times were determined by the Lee-White method (normal 5 to 8 minutes). As the investigation was a simple bed-side procedure water bath control of temperature was not used. Control clotting time determinations were followed by readings at approximately two hours

TABLE I.

Case No.	Diagnosis	Duration of treatment	Control clotting time	Clotting times after intramuscular heparin
1	Coronary failure	48 hours	6 mins	24½, 28 mins.
2	?Myocardial infarction	88	5½	17, 35, 38, 14½, 15, 10
3	Thrombophlebitis, pulmonary embolus	48	9	28, 24, 21, 40
4	Mitral stenosis, auricular fibrillation, pulmonary infarction	20	6½	10, 22, 15
5	Myocardial infarction	24	6	12, 6, 7
6	Myocardial infarction	32	6½	5½, 12, 7½, 9
7	Myocardial infarction	12	5	5, 6, 7½
8	Myocardial infarction	12	5	7, 8
9	Mitral stenosis, pulmonary infarction	32	9	12, 9, 21, 15
10	Myocardial infarction	32	7	29½, 26, 26
11	Thrombophlebitis	40	6½	13½, 17½, 15, 12
12	Myocardial infarction	36	5½	17, 18½, 27
13	Cerebral embolus, auricular fibrillation	16	7	3½
14	Postoperative prophylaxis	24	11, 6½	16, 27½, 24½
15	Postoperative prophylaxis	20	6½	13, 30, 20
16	Postoperative prophylaxis	16	7	7, 9½, 8

following facts are relevant in answer to the question, "What prolongation of the clotting time is desirable?" The early work of the Toronto group has been summarized by Murray and Best.¹⁰ This work (subsequently amply confirmed) shows that a continuous prolongation of the clotting time to twice to three times the average normal is an efficient prevention against thrombosis in many different circumstances experimental and clinical. Godlowski¹¹ has maintained *complete incoagulability* of the blood for four hours both in experimental animals and in man. No complications were encountered apart from some hæmatoma at the site of the intravenous injection.¹² These facts are sufficient tribute to the efficiency and safety of heparin. They also lend support to the criteria used by Baker *et al.*,⁸ namely, Lee-White control 5 minutes, desirable range of clotting time under

or at about four hours after the last injection of heparin. The heparin used had a strength of 25,000 international units per ml. The use of a tuberculin syringe and careful charting ensured accurate measurement and regular intramuscular injection of ¼ of a c.c. of this preparation every four hours.

RESULTS

Our results in 16 cases are summarized in Table I. We have found the procedure simple and free from complications. No hæmatomata were encountered. Pain at the site of injection was not complained of by our patients.

Two deaths occurred during this series. Case 2 is diagnosed as questionable myocardial infarction because E.C.G. confirmation of infarction was not obtained. Twelve hours after heparin was discontinued the patient died. Clinical evi-

dence of dissecting aneurysm had been repeatedly looked for in this case but had not been found. Case 13 was an established case of auricular fibrillation that developed a cerebral embolus and was admitted in coma. Heparin was given overnight but she died the next morning. Unfortunately permission for autopsy was not obtained in either of these cases.

Cases 5, 6, 7 and 8 are of particular interest to us. They were all cases of myocardial infarction with pulmonary oedema and clinical manifestations of shock. With regard to prolongation of the clotting time the results were uniformly poor. After our experience with Case 5 the following further study was carried out in cases 6, 7 and 8. Immediately after the last recorded clotting time was completed 50 mgm. of aqueous heparin was injected intravenously. Exactly 30 minutes after the intravenous injection blood was drawn and a further clotting time was determined.

The results were: case 6, 35 minutes plus; case 7, 26 minutes; case 8, 45 minutes plus.

DISCUSSION

Case 14 is recorded as having control clotting times of 11 minutes and 6½ minutes. These readings were obtained before heparin treatment was started, about 28 and 36 hours after operation. It is possible that a temporary disturbance in the clotting mechanism in the postoperative state was responsible. A similar disturbance after thrombosis or in the postoperative state might explain the poor results in cases 13 and 16. Clinical manifestations of shock were not obvious in these cases.

With regard to cases 5, 6, 7 and 8 it might be thought that the poor results are explicable on the grounds of the conclusion reached by Loewe and Eiber.¹³ "There apparently is a direct relationship between the mass and extent of thrombosis and the degree of response to heparin; as the clots disappear, the individual becomes less resistant and more responsive to the anti-coagulant". However, our observation of case 5 made it apparent that poor absorption was an alternative hypothesis. Accordingly case 6, 7 and 8 were studied further. The response to intravenous heparin in these cases does not support the hypothesis of increased heparin requirements.

Material that is injected subcutaneously in patients in a state of shock is poorly absorbed.

This dictum is currently accepted on the basis of many clinical observations. Sheehan's¹⁴ studies on obstetrical shock offer indirect but supporting evidence. Our results in cases 6, 7 and 8 have persuaded us that it is unwise to use intramuscular heparin in similar cases of myocardial infarction with clinical evidence of shock. It is not the dosage but the route of administration that should be altered in these cases.

SUMMARY

16 cases were treated with concentrated aqueous heparin, 6,250 international units injected intramuscularly every 4 hours. The method is simple and proved free of complications in our series.

As judged by the effect on the clotting time good results were obtained in 10 cases and poor results in 6 cases. Four cases of myocardial infarction clinically in a state of shock had poor results.

The evidence produced does not favour the suggestion that it is advisable to increase the dosage of intramuscular heparin in serious cases of myocardial infarction. Such a procedure carries the risk of massive delayed absorption.

In the absence of factors interfering with absorption the routine use of concentrated aqueous intramuscular heparin at four hour intervals may prove satisfactory. Further studies will be necessary.

Acknowledgment is made to our colleagues of the Mall Medical Group for referring patients for this study. This work was done at the Misericordia General Hospital, Winnipeg. Our thanks are due to Dr. O. C. Trainor, Medical Superintendent of the Hospital, for encouragement.

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PHYSIOLOGICAL FACTORS UNDERLYING THERAPEUTIC SUCCESS IN MENTAL DISORDERS*

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Life, for Justus Liebig, the great organic chemist of 100 years ago, was essentially a struggle between living tissues and oxygen in an effort to establish an equilibrium between them. The equilibrium represented the cessation of struggle; the equivalent of Death.

BELLAK AND WILLSON list 40 possible etiological factors for dementia praecox alone in their 1935-45 period of review; hundreds could have been listed over the years if other mental disorders were included, though not all would be "physiological" of course.

Treatment should depend ideally upon known factors of causation—the removal, reversal or alleviation of the factors of cause. But what is cause? In mental disorder, is it a change at the appropriate level of cerebral function, with the analogy of Symonds between the patient with the known thalamic lesion who felt his fingers were being constantly crushed, and the somatic agony of the patient with depression? If we accept the relationship between brain and mind in terms of interactionism rather than of psychophysical parallelism then not only can the concept of cause be accepted in a neurophysiological sense as much as in the sense given it by psychoanalysis, as Adrian has indicated, but also illness may be conceived of as a breakdown of the total body-mind complex in the psychosomatic sense, and this despite the fact that the manifestations of such breakdown may be apparently predominant in one or other field of its expression.

Most psychiatrists today accept the Meyerian psychobiological principle of multiple causation in mental disorder and, with this, the implicit connotation that treatment, although it may have a specific aspect channeled towards the major influence of a particular constellation of causative factors, also has a non-specific aspect. This is evidenced, for example, in the growing insistence upon good nursing, occupational therapy, and general care in the Weir-Mitchell sense in our mental hospitals; it is also exemplified by the knowledge that a treatment like electroshock,

which appears to be especially valuable in certain affective disorders, is also on occasion effective in schizophrenia; that the intravenous sodium amytal sometimes indicated in the abreaction of amnesic states can also temporarily reverse the stupor of catatonic schizophrenia; and that psychoanalysis, originally introduced for the treatment of the psychoneuroses, appears capable of being applied with benefit to psychotics.

It has long been a characteristic of psychiatric therapies that they have been introduced either on concepts which have later proved to be false, e.g. Meduna's idea of the antagonism between schizophrenia and epilepsy, on such pragmatic grounds as an alternative method of producing similar effects to other treatment, e.g. Cerletti and Bini's electroshock to replace metrazol, or on frankly empiric grounds, e.g. Sakel's insulin coma treatment. Perhaps one of the reasons for this rather depressingly non-scientific state of affairs has been the relative therapeutic failure of psychiatric treatments based on specific hypotheses of causation, and here might be cited as outstanding the many years of trial given to the practice of formal Freudian psychoanalysis, with results showing few advantages over less time-consuming procedures, a finding which of course in no way invalidates the importance of Freud's major contributions of psychopathology. Other examples are the anoxia hypothesis with the nitrogen inhalation therapy and the thyroid treatment based on it, and the exhibition of sex hormones to involutional psychotics.

The metaphysics of causation have been discussed recently by McInnes in relation to mental health and by Halliday in relation to physical health; they have been considered in relation to consciousness by Brain, by Penfield and by Sherrington. It is upon such considerations that hypotheses underlying successful treatment must depend, if such treatment is to be based upon scientific principles rather than upon pragmatic or purely empiric foundations.

In psychiatry today there exists the anomalous position of having an armamentarium of several relatively successful therapies, the rationale of each of which is frankly empiric and pragmatic, together with an amorphous, if slender, collection of other mainly unsuccessful treatments specifically designed to correct an assumed cause of mental disorder, yet meeting only with failure. It would appear, therefore, that the time has

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come to order our thoughts differently and to examine some of these specific ideas of causation and their consequent applications in therapy in an effort, not only to sort the wheat from the chaff, but also eventually to design a treatment or treatments better and more scientifically able to help our patients.

Probably the most complete series of physiological investigations into the mechanisms underlying psychiatric therapy has come from the laboratory of E. Gellhorn. In his book on *Autonomic Regulations* Gellhorn concludes (p. 301) that psychotic patients show a decreased reactivity of the sympathetic-adrenal system, together with a relative preponderance of the vago-insulin system. He observes that the various successful therapies of schizophrenia have as their common factor the increased excitability of the sympathetic centres leading to a restoration of the disturbed autonomic balance. This "affects the cortical processes in a manner as yet poorly understood" though "the increased excitability of the autonomic centres may last for hours" (p. 306). Gellhorn and his co-workers undertook exhaustive investigations of the effects of such physical treatments as insulin hypoglycaemia and metrazol shock and correlated them with the effects of anoxia. He concludes that, although differences exist in many of their actions, entirely similar results are given by hypoglycaemia and by anoxia in terms of alterations in brain potentials, cerebral blood flow and brain metabolism, while the influence of anoxic anoxia and insulin and metrazol shock is identical with respect to the changes induced on the autonomic nervous system.

Himwich, Gerard, Danziger, McFarland, Hoskins and the writer among others have stressed the probable importance of the rôle of anoxia in the pathophysiology of psychiatric states. Danziger claims that the entry of patients into mental hospitals can be fairly reliably predicted from a knowledge of their basal metabolic rate; Hoskins has demonstrated a reduced oxygen consumption in schizophrenic patients; McFarland has noted in detail the psychiatric similarities between the mental state evoked in normal subjects by anoxic anoxia and that occurring in idiopathic "functional" mental disorders; Himwich and Gerard postulate a disturbance of oxidative function in the brain; while Gerard suggests that this disturbance is overcome in successful treatment by an increase

in cerebral respiration, "either directly or on the rebound."

A principal difficulty in assigning a cause in mental disorder, or of evaluating the relative success or failure of a treatment designed to remove the cause, has been the selection of a suitable physiological variable, or series of variables, by which to study it. Thus Meduna in the last chapter of his book on *Carbon Dioxide Therapy*, proposes a "neurophysiological theory of neurosis" in terms of a relatively low threshold to stimulation in patients with neurotic disturbances leading them to an unstable equilibrium which is self-perpetuating in accordance with cybernetic theory. It may well be that the action of carbon dioxide is to raise the stimulation threshold of nerve and decrease its fatiguability by increasing its membrane potential. Such corollaries follow if the initial hypothesis be granted, as of course did the rationale Meduna offered in an earlier paper of a restoration of the disturbed hormonal balance in cases successfully treated by camphor-in-oil and metrazol shock. But other hypotheses can be erected to account for the effectiveness of carbon dioxide in psychiatry and one of these to be favoured by proponents of the anoxia theory would certainly be the effect of carbon dioxide inhalation in raising the arterial blood oxygen saturation levels. A rise from 95.2% saturation resting to 99.7% after 35 or more inhalations of 30% carbon dioxide and 70% oxygen, settling to an arterial oxygen saturation of 98.4% fifteen minutes after removal of the mask is impressive evidence of the ability of carbon dioxide temporarily in any event to reverse an anoxaemia accompanying a psychiatric disorder. As hypothetical also were the theories of allergy in relation to mental disorder held to justify the employment of histamine in the treatment of psychiatric patients and the variables monitoring such treatments, e.g., the effect on the arterial pressure, bore little relationship to the theory. In the case of lobotomy, a considerable amount of research went on in animals before its possible therapeutic applications to man were appreciated, yet even here the exact localization of the lesion is seldom possible and the actual meaning of the results obtained is often only ascertainable at necropsy.

In 1946, Roy Hoskins of Worcester presented the conclusions of 18 years of physiological study of schizophrenic patients. Throughout his Salmon

lectures, he stressed a few features that he and his group had noted time and time again. They included the following observations: (a) these patients are *immature* both emotionally and constitutionally, representing either fixations or dysplasias of their growth potentials at a level below that of healthy individuals at comparable chronological ages; (b) their *reactivity to stress is impaired* in almost every sphere in which it is sought; (c) their *oxygen metabolism is impaired*, probably in several separate respects at several levels and for as many reasons; and (d) their *state of consciousness is at the dreaming level* of relative unawareness and one principal effect of successful therapy lies in the improvement of the patient's empathy.

It is proposed to examine in some detail two of the concepts running through the work just quoted to see if they help in our understanding of what constitutes success in therapy and perhaps our understanding of some of the causes of mental disorder. These two concepts are those of firstly, disturbed oxygen metabolism and secondly, immaturity.

(a) THE FACTORS OF IMMATURITY

Growth gradients and differential maturation have long been assumed tacitly or overtly as a measure of the results to be achieved by psychotherapy. Such a concept runs through psychoanalysis and other so-called dynamic or depth techniques in which regression to earlier phases of development is encouraged prior to resynthesizing the personality on a more acceptable basis. While no satisfactory measure of *emotional* maturation exists at the present time, Doll's Vineland Social Maturity Scale and the so-called "Developmental Quotient" of Gesell and Amatruda are sometimes useful as an adjunct to clinical impression at interview.

Constitutionally however the matter has been more fully investigated. Kretschmer included an infantile and a hypoplastic type in his system of somatotypology: fixations and developmental dysplasias (the so-called "stigmata") are adumbrated in textbooks on mental deficiency, and it is clinically well recognized that neurotic and psychotic patients frequently look very much younger than their stated age.

In an attempt to quantify some of these dysplastic and ontogenetic variables of psychiatric disturbance, some investigations were made into the growth differentials of mentally ill pa-

tients and the results compared with those of healthy subjects of comparable chronological ages. Rating scale anthroposcopic and anthropometric measurements were made of some 35 structural features of the subject's somatic configurations. The items were chosen as those which were normally found in infancy and childhood but which were transformed or relatively lost as this age advanced into adulthood. The colouring of the hair and eyes, the length of the lashes and the upper lip, the relationship of the nose to the interpupillary distance and the bi-temporal diameter, the presence of an epicanthic fold, the texture of the skin, hyperextensibility of the ligaments—these were some of the somatic features chosen for appraisal since all of them tend to change as age progresses.

Briefly it was found that, of the 648 subjects investigated, the psychiatric patients showed both qualitatively and quantitatively a persistence of features of morphological immaturity which was significantly greater than that of the healthy controls. There was a differential sex distribution and a progressive decline with age, but the surge of growth was so much less marked among the mentally-ill patients that they only reached a comparable degree of maturation by the chronological age of 60 to that achieved by the controls at the chronological age of 20 years.

(b) THE FACTORS OF ANOXIA

We have tried to demonstrate that, if immaturity be admitted as a legitimate correlate of mental disorder, then it is by no means confined to the brain; rather is it representative of the total organism. Immaturity is a functional entity of the personality in its emotional and psychological aspects; developmental dysplasia is a morphological attribute of the whole patient in its constitutional aspects. The brain alone is not so much the organ of the mind as Cobb claims: it is the *total body-complex* which qualifies as being the expressive and behavioural unit representing the mind.

Despite the striking similarities between the mental symptoms and disturbances accompanying anoxæmia, no matter whether this is produced by actual or simulated high altitudes carbon monoxide intoxication, nitrous oxide and other anæsthetics or by a wide variety of other agencies, the majority of reports dealing with anoxæmia in mental disorder have been negative, despite an often wide standard deviation.

Several considerations probably contribute to such results for Katzenelbogen and others concluded from his investigations that intracranial oxygen metabolism may be lower in schizophrenics than in normals and there is histochemical evidence from Russian quarters that the hæmoglobin of patients with this disease shows defective oxygenation.

Photoelectric and spectroscopic oximetric analysis of arterial blood oxygen saturation in psychiatric case material lends support to these latter findings. One principal objection to much of the previous research on oxygen metabolism is that it has been concerned specifically and deliberately with the cranial circulation, whereas from what has already been said, dementia præcox is a disease of the total organism. A

oxygen saturation of the blood, oximetry is rapid, reproducible, not disturbing to the patient and permits of continuous recordings, or measurements every half minute or so, depending on the method used.

The results of such oximetric investigations in a series of cross-sectional studies revealed a significant degree of anoxæmia, at the capillary level of function, in "constitutional" schizophrenics, *i.e.* in hebephrenia, catatonic schizophrenia and in dementia præcox simplex, but not in paranoid schizophrenia, neurosis, psychopathy, epilepsy or depressive states. Significant however, was the fact that, when these latter patients were placed in situations of stress, *i.e.* when they were examined dynamically and in circumstances in which homeostatic adjustment

TABLE I.

SHOWING RELATIONSHIP BETWEEN HISTORICALLY ANTECEDENT PHYSICAL SYMPTOMS AND DISORDERS ASSOCIATED WITH POTENTIAL ANOXÆMIA AND THE SUBSEQUENT DEVELOPMENT OF MENTAL DISTURBANCES.

Group	Complaint or disease	Significant difference in historical incidence between healthy controls and psychiatric abnormals
Infections, infestations and other diseases unrelated to clinical anoxæmia.	Measles, mumps, scarlatina, chicken - pox, minor coughs and colds, impetigo, scabies, helminthic infestation, fractures, tonsillitis, furunculosis, urticaria, lumbago, sciatica, fibrositis.	No significant differences.
Infections and other diseases involving potential anoxæmia.	Whooping cough, rheumatic fever, German measles, pleurisy, influenza, rickets, bronchitis, migraine.	All significant at least to within the 5% confidence level.
Symptoms resembling those seen in experimentally imposed anoxic anoxia.	Shortness of breath, "anæmia", epistaxis, joint pains, back pain, neck pains, "writer's cramp", sore throat, recurrent headaches, "ear trouble", bilious attacks, indigestion, nausea, "gastric stomach", neuritis, pruritus, vertigo, syncope, "déjà vue".	All significant at least at the 1% confidence level.

second objection is that, even with the refined nitrous oxide technique of Kety and Schmidt, only the blood of large vessels is available for examination. Oxyhæmoglobin in these situations is not as directly in relation to the tissues as it is in the capillaries and the recent findings of Browne and others confirming the existence of cerebral arterial shunt mechanisms in cats capable of altering the cerebral blood flow qualitatively yet with no overall quantitative change, support the suggestions of Quastel and of H. G. Wolff that localized change may occur to accompany psychiatric symptoms with no quantitative gross changes in cerebral metabolism.

To these ends two oximetric techniques were employed to study peripheral capillary oxygen metabolism in a variety of psychiatric states. Unlike the older methods of estimating arterial

was demanded of them, then the response was an anoxæmic one in every instance. And further, the duration and intensity of the anoxæmia bore a direct relationship to the diagnosis, neurotic patients for example displaying less anoxæmia and a shorter duration of it than patients with paranoid schizophrenia. The dynamic response of psychiatric patients to stress, at least in the case of neurotics, has also been shown to be in terms of relative anoxæmia by Kroetz in Germany and by Hick and others in the U.S.A.

As to the causes underlying the anoxæmia, actual or potential, characterizing psychiatric patients, a certain amount may be said. Hoskins and later Rheingold, have demonstrated an impaired oxygen uptake in schizophrenics. In terms of reactivity to stress, the observations of Thompson and Corwin on breathing patterns

typical of schizophrenia serve to echo a relationship between breathing and mental disorder which has been accepted since the days of Patanjali's Yoga sutras.

The factors influencing respiration and leading to impaired breath control are more complex and difficult to evaluate. Apart from the relevance of Haldane's original observations of a differential impaired aeration of the lungs and the arterio-venous anastomoses known to exist in this organ as in other relevant organs and tissues including the brain, one possible explanation may be offered, namely, the high incidence of potentially anoxia-producing disorders in the medical histories of psychiatric patients. In an investigation of the somatic illness histories of mentally ill patients, it was found that their previous physical illness experience was significantly in excess of that of a comparable group of healthy controls and, furthermore, that the more severe the current psychiatric disturbance, the heavier the loading of previous physical illness. Re-arrangement of the data contained in the report referred to brings out the relevance of preceding anoxæmia-inducing illness to the later development of mental disorder. Table I lists those physical complaints and somatic disorders historically present in the anamneses of psychiatric patients and demonstrates that those diseases which are potential sources of anoxæmia have occurred in significantly greater proportion in such patients than in subjects who have not developed mental disturbances.

(c) INTER-RELATIONSHIP OF ANOXIA AND IMMATURITY

Several indications point to a direct relationship between anoxia and the factors controlling maturation. In certain circumstances a condition of relative anoxia is essential to organismal growth and restoration processes. As an example of this may be cited the influence of the blood supply on bone. In the presence of full oxygenation of blood in surrounding vessels and the absence of the customary stagnation of blood flow, it is thought that bones tend to become osteoporotic, in similar fashion chronic hypertrophic pulmonary osteoarthropathy with subperiosteal thickening of the hands, feet and lower parts of the forearms and legs, follows upon the anoxæmia secondary to chronic cardio-respiratory disease, and the specific impetus to erythropoiesis in the bone marrow comes from

anoxia, erythropoietic activity being governed chiefly by the arterial oxyhæmoglobin level. More commonly, however, anoxia acts as a "stressor agent" in Selye's phraseology and inhibits the processes of growth.

A corollary to the claim that successful psychiatric treatment should correct the disturbed oxygen metabolism of the organism is that it should facilitate the patient's disturbed or fixated growth and development. Daniel Schneider presents some cogent arguments for assuming that the insulin coma therapy of schizophrenics actually accompanies the forced induction of growth in these patients. In hypoglycæmia, the B.M.R. and basal heat production both increase, the E.E.G. alpha frequency falls and reaches the theta range with concomitant increase in the amplitude of the waves, and a subsequent increase in the patient's body weight takes place. Wetzel has demonstrated a direct relationship between growth and heat production while, as Schneider has calculated, the alpha frequency of the E.E.G. shows a linear correlation with brain and cord weights at various chronological ages and increases so predictably and progressively with brain weight from birth to puberty that it may be calculated on a basis of maturational change alone. The function of insulin as a growth hormone has also been stressed by Best. Apparently small doses of protamine zinc insulin, when administered to hypophysectomized animals, lead to significantly greater growth increases both in differential organ weights and in epiphyseal centres of long bones than in control animals and parallel the response to the exhibition of the somatotrophin of the anterior pituitary.

Other dimensions are also available to relate factors of growth and development to the anoxia hypothesis. Essential food factors such as *vitamins* have been employed with some success in the treatment of certain psychiatric disorders. Gains in intelligence beyond those to be expected with age in mental defectives have been noted with thiamine administration, nicotinic acid has been claimed to be of value in some depressive disorders and other vitamins have also been tried. It is relevant to note that nicotinic acid, thiamine and riboflavine are all indispensable to normal cellular oxygen utilization and that local deficiencies of these substances could mimic systemic deprivation of either oxygen or glucose. Similar considerations apply

also to growth-promoting *hormones* such as methyl testosterone, dehydroisoandrosterone, desiccated thyroid, and the pituitary group; to the effects of certain *amino-acids* such as proline and glutamic acid; and to other growth promoting substances such as malononitrile which increases nucleo-protein production.

These findings serve to illustrate some aspects of oxygen metabolism and growth dysplasia in psychiatry and to underline their inter-relationships and relevance to treatment. It is now necessary to relate some further facts in an attempt to probe more specifically into the mechanisms of action common to successful therapy.

It will be recalled that when Selye introduced his concept of the general adaptation syndrome in 1936, later to be elaborated in his book on Stress, he formulated in detail the sequence of changes he considered to take place when the impact of stress forced a dynamic adjustment upon the organism. Selye pictures this adjustment as a cycle of changes in resistance, against an axis of time. The impact of the "stressor agent" (or "alarming stimulus") produces an initial stage of *shock*; this evokes a second stage of *counter shock* as a homeostatic response and leads directly to a third stage of *resistance*. If the stress proves too great relative to the organism's resistance, a fourth stage of *exhaustion* follows with loss of what Selye terms the "adaptation energy" of the organism. For convenience in what follows, we shall refer to the initial stage of shock as *Phase I*, to the stage of counter shock as *Phase II*, and to the stage of resistance as *Phase III*.

Some short while ago, we were interested in trying to evaluate the mechanisms concerned in the use of intravenous histamine as a therapeutic measure as described by the Sackler group at the Creedmoor State Hospital, New York. We gave 0.1 mgm. histamine to 46 patients suffering from neurosis, depression, schizophrenia and various organic syndromes complicated by some degree of dementia. And their responses were followed simultaneously in terms of the arterial blood pressure and of the arterial oxygen saturation, as determined oximetrically. The results obtained have been reported elsewhere but briefly it was found that both the arterial pressure and the oximetric variables responded to intravenous histamine in a similar fashion and reproduced the cycle of changes seen in Selye's

general adaptation syndrome, the "rebound phenomenon" or counter shock stage of Phase II following immediately upon the stage of shock of Phase I.

As with intravenous histamine, so with insulin coma therapy. Here the time axis is somewhat extended and the change from Phase I to Phase II is dependent upon the administration of glucose, but the pattern of oximetric change is the same. Injection of a shock dose of insulin is followed by a gradual fall in the arterial capillary blood oxygen saturation to a minimum when coma is reached. The saturation values then rise steeply with the exhibition of intravenous glucose or in a staircase fashion if the sugar is given intragastrically. The importance of Phases I and II are seen in their relationship to the final Phase III. Often the baseline returns to approximately the same level as before the insulin injection, but this is not always the case. And it is of interest to note that the final oxygen saturation levels, when these show a significant increase above the pre-injection resting levels, reflect a clinical improvement in the patients whereas no such improvement is seen when this rise is not sustained.

This investigation confirms the essentially similar findings for insulin shock therapy of other workers, both for the effect on the arterial pressure and on cerebral metabolism.

As for intravenous histamine and insulin coma, so also for other treatments. Identical patterns of change have been noted in metrazol shock and electroshock for the arterial pressure variable while the occurrence of the Phase II rebound phenomenon may be inferred for the cerebral metabolism from the work of Davis and others, Geiger and Magnes and Klein and Olsen. After these shock treatments, the oxygen consumption increases following an initial period of anoxæmia. Loman and his co-workers effectively demonstrated that the blood oxygen content fell in schizophrenic patients during the fit, to reach its lowest level at the end of the seizure. Following this a rise in blood oxygen occurred to values well above the original resting levels. Loman felt that the hyperpnœa was responsible for this after-rise but Davis and others and Davies and Rémond have shown it to occur even in curarized animals.

It would appear then that, at least for metrazol and E.C.T., insulin coma and intravenous histamine, a cycle of changes identical with

those established by Selye for the general adaptation syndrome takes place, and that these three phases of dynamic homeostasis are essential to relative success in the therapy of mental patients. There are many indications that the same cycle probably occurs in many other accepted treatments and here one might mention fever therapy, intravenous acetylcholine shock, natural and induced sleep, and even psychotherapy, though here the situation is a complicated one. It is of course possible to improve the mental state of schizophrenics by the inhalation of oxygen but the improvement is but temporary. No initial Phase I effect is present to induce a homeostatic response and the final state remains identical with the first.

CONCLUSIONS

(a) Psychiatric patients are sick *persons*, not merely sick brains and nervous systems. Their sickness exists on a basis of maturational dysplasia in every sphere in which it is sought, and represents a constitutional growth inadequacy the pattern of which is relatively distinct for each class of major psychiatric disorder.

(b) A principal physiological correlate of this inadequacy is an impaired homeostatic response to the stresses of living which manifests itself in a variety of different ways but which can conveniently be monitored in the field of oxygen metabolism at the capillary level of function.

(c) Treatment in psychiatry is successful if it catalyses growth potentials in the patient and leads to an improved pattern of homeostatic adjustment.

(d) It is suggested that an important feature of mental disorder, at least in the physiological sphere of reference, is a relative anoxæmia, either in the resting state or accompanying the dynamic response of psychiatric patients to stress situations. It is of little permanent avail artificially to raise these low arterial blood oxygen saturation levels; the patient must be helped to do this for himself. Treatment is successful in this regard insofar as it includes a period of stress to which the patient must respond, the sequence of such response subsuming the shock, counter-shock and resistance phases of the general adaptation syndrome.

(e) A principal difference between existing therapies lies in the duration of the phase of shock, that is, the time during which the stress is allowed to act. In an ideal treatment this could

be varied at will to suit not only the needs of each diagnostic group but also those of each individual patient.

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THE COMMON BENIGN MESENCHYMAL TUMOURS OF THE STOMACH*

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MASSIVE TUMOURS of the stomach though not uncommon are usually malignant. Within the past few years at the Montreal General Hospital several massive benign tumours have been encountered and were often undiagnosed prior to operation. Interest was aroused on account of their occasional great size coupled with difficulty in preoperative diagnosis, and further investigation into their incidence, pathological varieties and clinical features was carried out.

The majority of the benign tumours are of mesenchymal origin either from the smooth muscle coats (leiomyoma) or from the nerves (neurilemmoma) in the stomach wall. These two varieties are often difficult to differentiate from one another and in many instances special staining methods are needed in their identification. Formerly these tumours were not separated and were all classified as arising from smooth muscle.⁶ Those arising from nerve sheath tissue were first described by Verocay in 1908 and called neurinomas by the same author in 1910, quoting Stout,¹⁵ who himself reported 52 tumours in 50 patients and suggested they be called neurilemmomas because of their origin from the nerve sheath. In more recent descriptions the spelling has been changed to neurilemmomas.

The records of the Montreal General Hospital Tumour Clinic and pathological laboratories have been searched and below is a list of both benign and malignant tumours found in the autopsy and surgical specimens from 1927 to 1951 inclusive:

In the autopsy series there are 74 benign tumours of all types, *i.e.*, 24.08% of the total of 308 benign and malignant lesions. This compares with other published series reported as 22%,⁴ 22.2%¹⁴ and 23.2%.¹³

In the surgical specimens there are 18 benign tumours, *i.e.*, 6.8% of the total of 260 benign and malignant lesions. This percentage is higher than two earlier series which was 1.3% in both.^{4, 6} When the incidence in the autopsy series is compared with that in surgical specimens it ap-

pears that many more benign tumours exist and are found accidentally at autopsy than give symptoms during life.

The commonest of the benign tumours are leiomyomas and neurilemmomas, (12 out of 18, *i.e.*, 66.6%). This figure is larger than that of 57.3% of Eliason and Wright⁵ and 57.5% of Minnes and Geschickter.¹¹

PATHOLOGY

The gross appearance of the tumours of clinical significance is that of a bulky mass in the stomach wall causing a diffuse thickening or a projection inwards into the lumen or outwards beneath the serosa, or otherwise called intramural, endogastric or exogastric respectively. They may be extensively degenerated and cystic

Type	Autopsy	%	Surgical	%
BENIGN:				
Polyps.....	20	27.02	3	16.6
Papilloma....	5	6.75	0	
Neurilemmoma	4	5.4	6	33.3
(Neurinoma)				
Leiomyoma...	23	31.08	6	33.3
Not grouped..	20	27.02	2	11.1
Adenoma.....	2	2.70	0	
Fibrolipoma..	0		1	5.5
Total.....	74	24.08	18	6.8
MALIGNANT:				
Carcinoma...	225		238	
Sarcoma.....	9		4	
Total.....	234		242	
Grand Total..	308		260	

on cross section, those of the neurogenic group tend to be less lobulated than those of muscle origin and to have a yellowish hue or a myxoid appearance, whereas the muscle tumours may have a faint brown tinge.

Leiomyomas may be distinguished from the neurilemmomas only by microscopic examination. Special staining with Mallory's phosphotungstic acid hæmatoxylin stain should demonstrate the longitudinal myofibrils within the cell cytoplasm of the leiomyomas. Neurilemmomas have been subdivided by Antoni into types A and B, which differ in their degree of differentiation. Type A shows well preserved palisaded cells and type B more loose-meshed oedematous tissue.

In this series many of the tumours were difficult to classify definitely and in several the diagnosis was changed from leiomyoma to neurilemmoma after further study. Eusterman and Senty⁸

*From the Tumour Clinic of The Montreal General Hospital.

reported 2,168 cases of gastric neoplasms and found no neurilemmomas. Likewise Balfour and Henderson² found none in a smaller series in 1927. In our series there were 6 neurilemmomas and 6 leiomyomas, one of the latter being classified as a border line leiomyosarcoma, the degree of malignancy of which was not advanced. Golden and Stout⁷ propose to abandon the term leiomyosarcoma and to call them leiomyomata either well or poorly differentiated.

The anatomic distribution of the tumours was variable, but there were none found in the cardiac end of the stomach. Four arose from the lesser, four from the greater curvature and four in the wall of the pre-pyloric region. A higher incidence has been reported¹⁶ for such tumours in the pre-pyloric region of the stomach. The tumours were single or multiple and varied in size from minute to massive, the largest being a neurilemmoma of 2,130 grams, measuring 21 x 18 x 10 cm.

CLINICAL FEATURES

There were 8 females and the average age of the series was 52, the youngest was 21 and the oldest 73. The age distribution was two in each of the 3rd, 5th, 6th and 8th decades, one in the 4th and three in the 7th decades.

Epigastric pain or discomfort was a common symptom and was present in 6 of the 12 patients. The duration of the pain varied from 11 years to one day prior to admission. In two cases the pain was relieved by food or antacids and in one vomiting gave relief. In the remaining 3 patients the pain in the abdomen preceded admission to hospital by a short time only. Gastric bleeding observed clinically either as hæmatemesis or melæna was also present in 6 cases. Four had melæna and two of these had massive bleeding. One patient was admitted with massive hæmatemesis and one patient had both vomited blood and passed tarry stools the day prior to admission. Four in the series lost weight, which ranged from 30 to 5 lb. Vomiting or nausea was less common, being present in 3 cases. Increasing girth of the abdomen was noted in 3 patients, all of whom had a definite mass palpable in the upper half of the abdomen (see Table I).

X-RAY FINDINGS

The criteria for the x-ray diagnosis of benign tumours of the stomach have been described by Moore¹² in 1924. They are: (1) a filling defect

which is circumscribed; (2) a filling defect on the gastric wall having curvatures regular and pliant; (3) rugæ surrounding the tumour are more nearly normal than in inflammatory or malignant lesions; (4) minimal disturbance of peristalsis but with retention rather common; (5) absence of niche, incisura or other evidence of spasm; (6) rarely a tumour large enough to be palpated; (7) splitting of the column of barium as it passes over the wall.

In eight of the patients a barium series demonstrated some abnormality, in five a definite filling defect was demonstrated and in addition two of these showed ulceration in the mucosa over the filling defect. In two of the remaining cases an abnormality was demonstrated in the duodenal and prepyloric region, which was interpreted as a duodenal ulcer in one and a possible carcinoma in the other. The remaining patient was shown to have a large extrinsic mass on the lesser

TABLE I.

<i>Clinical findings</i>	<i>No. of patients</i>	<i>Percentage</i>
Epigastric pain.....	6	50.0%
Bleeding.....	4	33.3%
Melæna.....	4	
Hæmatemesis.....	2	
Loss of weight.....	4	33.3%
Nausea or vomiting.....	3	25.0%
Increased size of abdomen.....	3	25.0%

curvature side of the stomach pushing it to the left and forward.

Of the four patients who did not have a barium series, two had definite palpable masses in the abdomen, another was admitted with massive hæmatemesis and a previous x-ray diagnosis of duodenal ulcer and the fourth was operated on for a non-functioning gall bladder and the tumour of the stomach was an unexpected finding.

TREATMENT AND RESULTS

Surgical removal is the treatment of choice and may be, local excision, subtotal or total gastrectomy. Bockus³ advises surgical excision, the probability of malignant change being greater than the operative mortality risk. Balfour¹ makes a similar statement. In this series eight subtotal gastrectomies were done, and the remaining four were treated by a local excision of the tumour. It is the opinion of the authors that the larger tumours are better treated by a sub-

total gastrectomy because of the possibility of malignancy as in Case 7 and also the resulting defect in the stomach, where local excision is done, may interfere with proper function. In no instance was a total gastrectomy necessary, as in Lahey and Colcock's series.⁹

Of the eight patients where a subtotal gastrectomy was done two died in the immediate postoperative period from peritonitis, two have not been traced up to this date and the remaining four are alive and well. Where local excision was done two of the patients are alive and well, one died six years later from other causes and one has been lost from follow-up.

There have been no instances of local recurrence in any of the patients, though Bockus (*idem*) reports a number of instances of the occurrence of a malignant tumour at the site of an original benign lesion previously removed.

CASE REPORTS

CASE 1

G.P. This 30 year old male was admitted with an 11 year history of epigastric pain between meals and a sour stomach. There was a loss of 11 lb. in weight. Examination revealed a well nourished male with tenderness to deep palpation in the epigastrium. X-ray findings were interpreted as a duodenal ulcer. A subtotal gastrectomy was done and the patient died of peritonitis within a week after the operation. Autopsy showed a healed duodenal ulcer and a small myoma about 1 cm. in diameter along the greater curvature.

CASE 2

S.M. A 41 year old female had massive melæna the day of admission and two previous episodes within the last 8 months. She also suffered from fainting attacks and weakness over this period. Examination demonstrated a pale woman whose B.P. was 112/64 and with a hæmoglobin of 24% and R.B.C. of 2,880,000. Gastric analysis showed no free acid and a total acid of 35. Barium series demonstrated a constant filling defect near the cardiac end of the lesser curvature of the stomach. A subtotal gastrectomy was done with an uneventful recovery. Pathological examination showed a papillomatous mass on the lesser curvature extending to both subserosal and submucosal regions measuring 4 x 6.5 x 2.5 cm., with one small ulcer in the mucosa 0.5 cm. in diameter over the tumour. This was a leiomyoma. The patient has been lost from follow-up.

CASE 3

A.S., was a 69 year old male who had suffered from dull abdominal pain and loss of 5 lb. in weight for the last 3 months. He also had noted fullness and discomfort in the abdomen p.c. for 3 months and increasing constipation for several years. A firm smooth round resistant mass was found approximately 4 cm. in diameter above and to the right of the umbilicus. A subtotal gastrectomy was done and the patient died 6 days later of peritonitis. Autopsy showed a hypertrophy of the muscle layer of the pyloric ring, which was considered a leiomyoma. Chronic follicular gastritis and duodenitis were also present.

CASE 4

N.S. A 21 year old female had marked pallor for one week, weakness for five days and dizziness on walking for two days prior to admission. There was slight tenderness around the umbilical area with some muscle tenseness. B.P. 118/52, P. 104, hæmoglobin 28%, R.B.C. 1,550,000. The stools were positive for occult blood. Barium series revealed a tumour involving the pars media and the pyloric end of the stomach with evidence of a larger ulcer on its surface. Treatment was subtotal gastrectomy, and the postoperative course was uneventful. The specimen showed two tumours in the pyloric end of the stomach, one 5 cm. and the other 2.5 cm. in diameter, the latter being closer to the pylorus. The diagnosis was two leiomyomata of the stomach. Follow-up in 1951 revealed the patient alive and well.

CASE 5

C.R., was a 67 year old female with a history of tarry stools the day before admission and vomiting of dark blood and passing dark blood per rectum the day of admission. She had slight crampy abdominal pain the day of admission and anginal pains intermittently for six months. The B.P. was 150/94, with slight tenderness over the upper abdomen. On admission hæmoglobin was 78%, R.B.C. 3,600,000. Stools were positive for occult blood. E.C.G. showed ventricular hypertrophy with a suggestion of apical infarction. X-rays of the upper G.I. tract showed a circular defect involving the posterior surface of the stomach about 3 cm. below the oesophageal opening with the mucosa ulcerated over the tumour. A laparotomy and gastrectomy were done with excision of a polypoid tumour of the stomach. Convalescence was uneventful. The tumour was 2.5 cm. in diameter and attached by a broad base, with a solitary ulcer in the overlying mucosa. The diagnosis was a polypoid neurilemmoma. This woman died later from other causes.

CASE 6

H.R. A 41 year old male had noticed an increasing girth of his abdomen in the last year and pain in right side of the abdomen for 3 days. There was a large mass in the abdomen, particularly in the R.U.Q. extending from the right costal margin down into the right lower quadrant and across the mid line. Hæmogram was within the normal range. Barium series reported a large mass on the lesser curvature side of the stomach pushing the stomach to the left and forward. At operation a tremendous tumour mass was found arising from the lesser curvature of the stomach and a high subtotal gastrectomy was done. Postoperative course was uneventful. The specimen consisted of the distal 2/3 of the stomach with an attached tumour mass 18 x 21 x 10 cm. and weighing 2,130 gm. (see Fig. 1). The gastric mucosa was smoothed out over the tumour but intact. The antral portion of the tumour was extensively infarcted and necrotic. The tumour was classified as a neurilemmoma. This man is alive and well.

CASE 7

C.G., was a 24 year old female who had noticed a gradually increasing mass in the abdomen in the right lower quadrant for 15 months, and a loss of strength and colour for 4 months. Examination revealed a soft cystic freely movable mass in the right lower quadrant about 5 cm. in diameter. A subtotal gastrectomy was done and the patient made an uneventful recovery. In the surgical specimen were two irregular tumour masses arising from the anterior surface of the distal end of the stomach, the larger mass measuring 7 cm., and the smaller 6 cm. in diameter (see Fig. 2). The mucosa was flattened but intact over the tumour masses. The histological diagnosis was a leiomyosarcoma of the stomach with the degree of malignancy not advanced. This patient has not been traced.

CASE 8

E.G. A 73 year old female was admitted for a cholecystectomy after an acute cholecystitis. At operation a firm rounded tumour was found on the anterior surface of the stomach. This was excised along with a fibrosed gall bladder. The patient made a good recovery and was discharged. The tumour mass was firm, rounded and measured 4 x 3 cm., the cut surface was homogeneous with a few dark spots. Histologically it was a leiomyoma. This woman has been lost from the follow-up records.

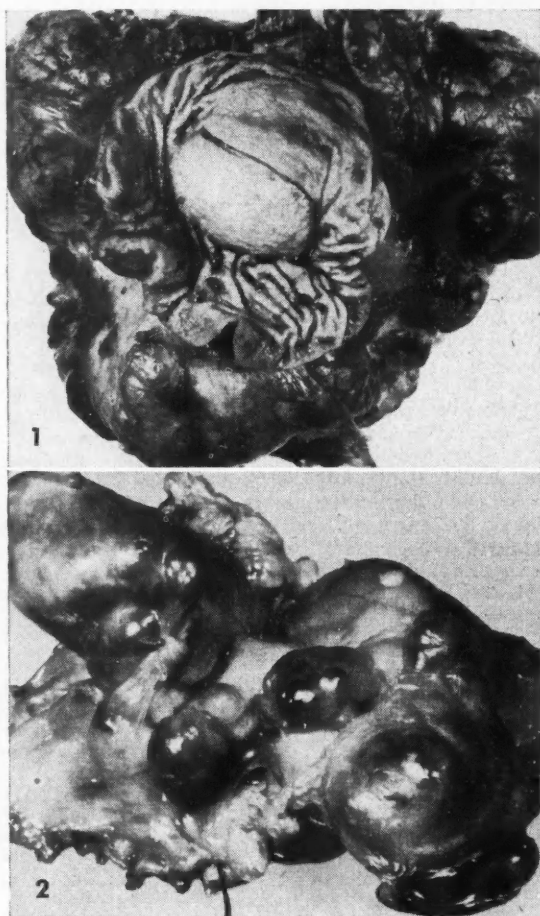


Fig. 1.—Surgical specimen from Case 6 showing the tumour mass with the resected portion of the stomach attached to it and opened. Note the smoothed and flattened mucosa in the middle of the stomach wall and the absence of ulceration. Fig. 2.—Resected stomach in Case No. 7 showing its anterior surface with two irregular bosselated tumour masses.

CASE 9

A.N., was a 61 year old female who had lost 30 lb. in weight during the last 2 years and suffered from daily anorexia and vomiting for 3 weeks. Barium series revealed a "J" shaped stomach with a polyp in the antral area on the greater curvature just below the incisura. There was no evidence of ulceration. A gastrectomy was done and the polyp was excised. The patient made an uneventful recovery. The polypoid mass was 3 cm. in diameter, of firm rubbery texture, with the mucous membrane intact over it. Microscopically it proved to be a neurilemmoma. This patient is alive and well.

CASE 10

A.P., was a 55 year old male who was admitted with massive hæmatemesis, nausea and weakness the day of admission. He had suffered from p.c. discomfort, relieved by food or milk for 4 years. The liver edge was palpable 3 f.b. below the right costal margin. His hæmoglobin was

83% on admission. Barium series was repeated 3 times; the third one reported evidence of organic disease in the prepyloric region; the possibility of a neoplasm could not be ruled out. A subtotal gastrectomy was performed though at operation it was difficult to distinguish anything unusual in the stomach other than some thickening of the wall of the prepyloric region. The postoperative course was uneventful. The specimen of stomach showed no abnormality, but on multiple cross sections in distal portion of the specimen, an area of fibrosis and thickening was noted in the region of the greater curvature extending 2 cm. proximal to the pylorus. The mucosa was intact. Microscopic examination showed that the thickening was due to a proliferation of smooth muscle tissue which had completely replaced the muscularis. The mucosa was involved by chronic gastritis, the diagnosis was an intramural leiomyoma. Patient is alive and well.

CASE 11

C.S. A 58 year old female had a duodenal ulcer since April, 1950. She was admitted with weakness, fatigue, palpitations, dizziness and tarry stools for one day prior to admission. Examination showed the liver edge to be palpable below the right costal margin. Hæmoglobin was 47%, R.B.C. 2,660,000 and there was occult blood in the stools. After preliminary blood transfusions of 3,500 c.c., a subtotal gastrectomy was done. The postoperative course was uneventful. There was chronic pyloroduodenitis with cicatrization and amputation neuroma in the surgical specimen, and in the prepyloric portion of the stomach wall there were several small neurilemmomas. This woman is alive and well.

CASE 12

E.M. This was a 71 year old female who had lost 30 lb. in 12 months, with anorexia, vomiting, weakness and epigastric discomfort relieved by vomiting, for 10 months. Examination showed a soft tender movable mass in the epigastrium. Barium series reported a filling defect on the greater curvature near the mid-portion of the stomach. At operation a nodule in the anterior wall of the stomach was removed from within the muscle coats of the stomach. The patient did well postoperatively. The tumour was an elongated nodule 1.8 x 1.0 x 0.6 cm., firm and whitish on cross-section with some calcification present. Histological diagnosis was a neurilemmoma of the stomach wall with heterotropic bone formation. A similar case was reported recently by Koloski *et al.*⁸ This woman is alive and well.

SUMMARY

The incidence at autopsy and in surgical specimens of benign and malignant tumours of the stomach has been given. In the autopsy series there were 74 benign tumours of all types or 24.08% of a total of 308 benign and malignant lesions. On the surgical specimens there were 18 benign tumours or 6.8% of the total 260 specimens benign and malignant.

Tumours of mesenchymal origin, *viz.*, leiomyomas and neurilemmomas, were the commonest benign growths discovered by operation. There were 12 such mesenchymal tumours out of a total of 17 benign tumours.

The clinical features of these tumours have been presented and their predominant symptoms and signs have been presented and are as follows in order of frequency: (1) Abdominal pain in

6 patients. (2) Bleeding either as hæmatemesis or melæna in 6 patients. (3) Loss of weight in 4 patients. (4) Nausea or vomiting in 3 patients. (5) Increasing size of the abdomen in 3 patients.

The treatment was either subtotal gastrectomy or a local excision of the tumour mass. The results of the treatment and a follow-up of the patients have been presented in addition to the individual case reports.

CONCLUSIONS

1. Mesenchymal tumours of the stomach are uncommon and in this series made up 6.8% of the total surgical specimens of the stomach.

2. They are usually benign in their morphological structure but may produce symptoms the commonest of which are abdominal pain and bleeding.

3. Diagnosis before operation may be difficult because of the failure of x-rays to demonstrate an abnormality in the mucous membrane or the peristalsis of the stomach. This may occur partic-

ularly in those tumours which are intramural or exogastric in location.

4. Their treatment should be complete removal either by gastric resection or local excision of the tumour when possible. Subtotal gastric resection is preferable in the larger tumours.

5. The chance of recurrence is low if the tumour is completely excised.

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SEROLOGICAL PATTERN OF INFLUENZA VIRUS STRAINS ISOLATED IN CANADA FROM 1948 to 1951*

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THE CHANGING serological pattern of strains of influenza virus as interpreted from the hæmagglutination-inhibition technique has been the subject of several publications during recent years.^{1, 2, 5, 7, 13, 14} Gradual transitions amongst antigenic types have been noted but the question as to how these variations arise has not been adequately answered. It has become apparent, however, that strains belonging to the A-prime subgroup have become the dominant and prevalent agents, replacing the classical type A influenza virus encountered in earlier years.

During the winter of 1948-49 many strains of influenza virus were isolated from different provinces throughout Canada, and in addition to these, several strains were obtained from an outbreak amongst Eskimos which aroused considerable interest.^{11, 15}

The purpose of this present paper is to present an antigenic analysis of viruses isolated in Canada and to compare and contrast them with some 37 strains isolated by the authors from different parts of Ontario during the 1950-51 epidemic. Nineteen of these latter strains were from patients in Toronto (10 of them under observation in a vaccine trial), 12 were isolated from patients at Camp Borden,³ 4 from Trenton, 1 from Sarnia, and 1 from Sudbury.

We have compared these strains one with another as well as with the U.K. 1951, the Swedish 1950, and the standard A and A-prime strains. None of the strains examined belonged to group B.

MATERIALS AND METHODS

Virus strains

The Lee and FMI strains used in this investigation were obtained in 1950 from Dr. Morris Schaeffer of the United States Communicable Disease Centre, Alabama. (The Lee strain had undergone several ferret passages, about 50 mouse passages and between 20 to 30 egg passages. The FMI strain had had 10 egg passages followed by seven mouse passages after which it had been through a further 5 to 10 egg passages.) The PR8 strain had been maintained in this laboratory for several years and had had several ferret passages, about 8 mouse passages, and 10 to 20 egg passages. The FW50 (Cuppett) strain was obtained from Dr. Hilleman of the U.S. Army Medical School, Washington and had been isolated and passed three times in eggs.

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Twelve Canadian Arctic strains isolated in 1947 from the Cambridge Bay outbreak were used; in addition attempts were made to pass 10 strains of virus which had been isolated from different parts of Canada during the early part of 1949 and which had been stored at -70° C. since that time. Of the latter only 3 strains were recovered and used in this investigation. All the 1949 Canadian strains had been isolated in eggs with 2 to 5 subsequent allantoic passages.

The 1951 Canadian strains with the exception of the Cornwall strain were isolated by the writers in February 1951 from widely separated parts of Southern Ontario. The Cornwall strain was isolated by Dr. Labzoffsky of the Provincial Laboratories, Toronto. The Canadian strains had been isolated and passed only in eggs, having received two amniotic passages and not more than four allantoic passages. A list of all the strains used in this investigation is shown in Table 1.

TABLE 1.

LIST OF STRAINS EMPLOYED IN THIS INVESTIGATION			
Strain designation	Origin	Date of isolation	Worker
PR8	Puerto Rico	1934	Francis
Lee	New York	1940	"
FM1	Fort Monmouth	1947	Army Med. C.
New1	Newmarket, Ont.	1949	van Rooyen and McClelland
SJ2	St. John, N.B.	1949	"
Ed2	Edmonton, Alta.	1949	"
CA	Canadian Arctic	1949	"
(12 strains)	Cambridge Bay, N.W.T.		
FW50	Fort F. Warren	1950	Army Med. C.
Sweden3	Sweden	1950	Svedmyr
London2134	London	1951	Andrewes
CW	Toronto, Ont.	1951	Dempster and Buchner
(11 strains)	(Western Hospital Student Nurses)		
AF	Camp Borden, Ont.	1951	"
(8 strains)			
Sul	Sudbury, Ont.	1951	"
SA2	Sarnia, Ont.	1951	"
TAF1	Toronto, Ont., R.C.A.F.	1951	"
TR5	Trenton, Ont., R.C.A.F.	1951	"
SC55	Toronto, Ont., H.S.C.	1951	"
CO16	Cornwall, Ont.	1951	Labzoffsky

Specific antisera

At the start of the work the twelve Canadian Arctic strains were investigated solely with rabbit antisera prepared by intravenous injection of 1 c.c. of infected allantoic fluid at weekly intervals for 3 to 4 weeks. The harvested sera were absorbed with Lee virus prior to testing the cross-reactions with members of the A and B prime groups. To further reduce non-specific reactions the rabbit antisera were heated at 65° C. for $\frac{1}{2}$ hour. The technique followed was similar to that of Tamm *et al.* (1950).¹³ It was not considered necessary to treat the rooster sera in this manner.

Specific rooster antisera were prepared by the combined intravenous and intraperitoneal inoculation of birds of 6 lb. weight with 5 ml. of allantoic fluid by each route. The serum was obtained by heart puncture after 10 day interval. Where there had been a large number of strains isolated from a particular area, as for example Toronto, an antiserum was prepared against one. The remainder were compared to that strain for significant differences. In this way antisera were prepared to strains from the different areas involved.

The HAI tests were carried out on plastic plates similar to that advocated by Salk (1948).¹² The plates were made from leucite and constructed to the following specifications (overall size: 32.5 cm. x 25 cm. x 1.6 cm.; eight rows of twelve depressions—diam. 2 cm. and depth 1.4 cm.).

A volume of 0.25 c.c. of virus suspension containing approximately 4 haemagglutinating units, was added to equal volumes of doubling dilutions of antiserum; to this mixture 0.5 c.c. of 0.5% suspension of chicken red blood cells was added. Readings were made after 45 minutes.

To minimize possible variation due to different sources of chicken erythrocytes, blood was taken from individual fowls which could be subsequently identified. In the whole investigation a total of 11 fowls were used for the supply of blood and of these 2 proved to be unsuitable and were discarded because of autoagglutination. Phosphate buffered saline (pH 7) was used as a diluting and suspending reagent.

It was thought possible that lack of sharpness of the endpoint upon the plastic plate might have been due to electrostatic charge on the plate influencing the sedimentation pattern. This possibility was investigated by carrying out parallel titrations upon a plastic plate and one made from a material known to have little or no surface charge (porcelain). The porcelain plate was moulded to the same dimensions as the plastic one. The titrations revealed no significant difference and the plastic plate was adopted for use.

Readings. In virus titrations the last dilution showing an even distribution of cells over the bottom of the depression was taken as the endpoint. On some occasions, the distribution was not uniform and the determination of the exact endpoint was a matter of experience and judgment obtained by recording varying degrees of partial sedimentation of the cells.

In serum inhibition titrations the endpoint was usually very sharp and was taken as the highest dilution in which a sharply outlined button was observed. Titres were recorded as final dilutions after addition of all reagents.

Controls. Apart from the usual saline control a check of the virus concentration used in the inhibition tests was made. On some occasions the virus control indicated that the concentration used in the test was too weak or too strong and then the results obtained had to be correlated with other days' work by means of the homologous serum titre. This serum control was included when necessary.

Cleaning and disinfection of plastic plates. The routine procedure for glassware could not be used. After a test was completed the deposited cells were shaken off the bottom of the depressions and the whole plate was emptied into and finally immersed, for a short time, in a tank of 2 to 3% phenol. (If left too long in this solution the plastic tends to soften.) The phenol was washed off with distilled water and the plates were put into weak glass-cleaning solution overnight, rinsed in tap water, followed by distilled water, dried, and finally cleaned with ether. Satisfactory cleansing of the plastic plates was found to be the greatest drawback to their use.

Pathogenicity tests were made with groups of 4 Swiss mice of 15 to 20 gm. weight. Two to three drops of freshly harvested infected allantoic fluid were administered intranasally to the lightly etherized animals. Any animal sickening within one week was killed and examined for lung lesions; after the seven days all the animals were killed and examined likewise.

RESULTS

Antigenic analysis of Canadian Arctic strains with rabbit antisera.—Twelve strains isolated in 1949 from the Cambridge Bay outbreak were available for comparison with one another. The antigenic analysis of these strains has been

carried out with rabbit antisera prepared against each one of these strains.

The antisera were absorbed first with Lee virus and afterwards subjected to heating at 65° C. to minimize non-specific effects. As indicated in Table II, CA2 and eight other strains behaved in a similar fashion, whereas three others showed differences. The similar strains represented by CA2 in the table have the characters of typical A (PR8) strains. Two of the others CA11 and CA7 behave like A strains but have A prime components, in their antisera. The remaining strain CA12 is very similar to the A prime strain FM1 and has no PR8 component in its antiserum.

It would appear that the twelve Canadian Arctic strains are not identical with one another and that although eleven of them resemble A strains most closely, one is more like an A prime.

Antigenic analyses with rooster antisera.—Since in the preceding analysis we had found strains

TABLE II.

SEROLOGICAL ANALYSIS OF CANADIAN ARCTIC STRAINS						
Virus	Reciprocal of HAI titres with rabbit antisera					
	CA2	CA7	CA11	CA12	PR8	FM1
CA2*	1024	8192	2048	<16	512	<16
CA7	2048	16384	4096	<16	1024	<128
CA11	512	8192	2048	<16	512	<64
CA12	<128	256	2048	256	64	256
PR8	512	8192	512	<16	256	<16
FM1	<16	128	1024	256	<16	2048

*Eight other strains and their homologous antisera behaved like CA2.

from the same community to be different it was considered necessary when we had more than one strain from a community to compare each of them with the range of antisera employed. This was done for eleven of the strains which were isolated from the student nurses and also for eight of the strains obtained from the R.C.A.F. patients at Camp Borden. No differences were detected and for further comparison, one strain from the student nurses (CW15) and one Camp Borden strain (AF9) were selected. It will be noted that the antiserum to the student nurses' strain was prepared to CW14, a strain which died out during the investigation and thus CW15 was substituted for it.

Comparison of strains isolated in different parts of Ontario with Swedish (1950) and London (1951) strains and the three standard strains (PR8, FM1, FW50).—The Ontario strains came from Toronto Western Hospital (CW15), Toronto Hospital for Sick Children (SC55), the

R.C.A.F. station in Toronto (TAF1), Camp Borden (AF9), Cornwall (CO16), Sudbury (Su1), the Air Force station at Trenton (TR5), and lastly from Sarnia (SA2). Thus they were obtained from widely separated parts of southern Ontario. As will be seen from Table III they differ little from one another in HAI tests and resemble closely the London and Swedish strains.

The Cornwall strain has the property of being inhibited to a titre higher than that of the homologous strain. This characteristic has been described by Hirst (1943)⁸ as an avidity factor of certain strains for antibody. It is accepted by most workers that a 2-fold difference in titre in hæmagglutination techniques is allowable, but some of the titres obtained with the Cornwall virus are 4-fold greater than the homologous serum titre. Strains of this nature have also been described by van der Veen and Mulder (1950)¹⁴ in serological analyses with ferret antisera. They called them R strains. A further interesting point is the weaker antigenic potency of the recently isolated Ontario strains. This may be associated with less frequent allantoic passages, as the roosters were immunized with second allantoic passage material. The antiserum prepared to the Sudbury strain was of too low titre for use. The recently isolated Ontario strains can be seen to be in a position intermediate between the FM1 and FW50 A-prime strains. Apart from CO16 and Sweden3, the 1950-51 strains show no cross relationship with PR8 and the former are inhibited by PR8 antiserum only to a very slight extent.

The serological analysis of strains isolated in 1949.—It is clearly shown in Table IV that the Newmarket strain is identical with the standard A (PR8) and does not behave like the 1950-51 strains, which are A-prime (Table III). While there is a cross relationship between the 1949 Saint John (SJ2) and the 1950-51 strains it can be seen from the low inhibition titre of (SJ2) virus with FM1 antiserum that the former is more nearly related to the FW50 member of the A-prime subgroup, whereas the latter are intermediate between FM1 and FW50. The SJ2 strain differs too in its lack of reaction with the antiserum prepared to the strain isolated from the Sarnia (SA2) district of Ontario in 1951. The Edmonton strain (Ed2) is peculiar for although all the A-prime strains are inhibited by its antiserum the reciprocal relationship does not apply.

In order to bring these results together in an interpretive form, Table V has been prepared to show the cross-relationships between the standard strains, the three differing 1949 strains, and the similar London, Swedish and Ontario 1950-51 strains.

Tests for pathogenicity towards mice.—Four of the recently isolated 1950-51 strains have been tested in this manner; they include two strains isolated in Toronto, one from a student nurse (CW15) and another from an infant (SC55);

serological method of differentiating strains of influenza virus isolated in this laboratory during the years 1948-49 and 1950-51; therefore in discussing the results it is essential that full appreciation be given to the degree of emphasis which may be laid upon differences as revealed by this method. It should be stressed that the hæmagglutination-inhibition system is a very complex one and easily disturbed by many non-specific factors. At the commencement of the investigation rabbit antiserum was employed and was

TABLE III.

COMPARISON OF STRAINS ISOLATED IN 1950-51											
Reciprocal of HAI titres with rooster antisera											
Virus	Standard strains			Sweden 1950	U.K. 1951	Canada (Ontario) 1951					
	PR8	FM1	FW50	Sweden3	London 2134	CW14	AF9	SA2	TR5	SC55	CO16
PR8	4096	<32	<32	<32	32	<32	<32	<32	<32	<32	32
FM1	64	4096	512	4096	1024	256	512	512	1024	2048	1024
FW50	<32	32	256	512	512	128	256	128	128	256	256
Sweden3	32	512	128	2048	2048	512	512	512	256	512	256
London2134	<32	256	256	1024	1024	512	512	512	256	512	512
CW15	<32	256	256	2048	2048	256	512	512	256	1024	1024
AF9	<32	512	256	2048	2048	512	512	512	256	1024	1024
SA2	<32	512	128	4096	2048	512	512	512	512	1024	2048
TR5	<32	512	256	1024	8192	1024	512	512	1024	4096	2048
SC55	<32	512	256	—	2048	512	256	256	512	2048	2048
CO16	64	1024	1024	4096	2048	1024	1024	2048	1024	4096	4096
Su1	<32	256	256	2048	2048	256	512	1024	256	—	1024
TAF1	<32	256	256	2048	2048	256	512	512	256	—	1024

TABLE IV.

SEROLOGICAL ANALYSIS OF THE 1949 STRAINS									
Reciprocal of HAI titres with rooster antisera									
Virus	Standard strains			1948-49 strains			1950-51 strains		
	PR8	FM1	FW50	New1	ED2	SJ2	Sweden3	SA2	TR5
PR8	4096	—	—	8192	32	32	—	—	—
FM1	—	4096	—	128	1024	4096	—	—	—
FW50	—	—	256	<32	128	1024	—	—	—
New1	4096	<32	<32	4096	32	<32	<32	<32	<32
Ed2	<32	<32	<32	<32	256	<32	<32	<32	<32
SJ2	<32	64	512	64	256	2048	512	<32	128
Sweden3	—	—	—	64	256	512	2048	—	—
SA2	—	—	—	64	256	512	—	512	—
TR5	—	—	—	128	512	1024	—	—	1024

the third strain was from Sarnia, Ontario (SA2), and the fourth strain was from Sweden (Sweden3). The tests were negative after two passages.

Two of the 1949 strains were similarly tested. The Newmarket strain was pathogenic upon first passage, the Saint John strain (SJ2) was not so, even after second passage.

DISCUSSION

The hæmagglutination-inhibition technique has been employed exclusively in this work as a

treated to reduce non-specific reactions; however rooster antiserum was employed for most of the investigation owing to its relative freedom from non-specific inhibitors.⁶ Troubled by variations in the results of titrations of virus pools, and on some occasions discrepancies between virus control tests of a suspension and the titre of the pool from which it was obtained, we investigated the possible effect of the electrostatic charge on the plastic plate. It was finally considered, when the charge theory was dissipated, that the variation was due to the non-homogenous nature of the

virus contained in the pool. In the great majority of HAI titrations the results were reproducible with no more than the accepted 2-fold variation. Where results were not reproducible the geometric mean of several titrations was determined and the dilution nearest to that value was accepted. In analyzing the results then, we have to neglect minor differences and pay attention only to well-marked distinctions.

It is only to be expected that strains isolated from one community should be almost identical, but recent reports^{4, 10} have shown that more than one virus may be present at one time in a localized outbreak. There were no major differences displayed by any of the 1951 strains compared in this work, in spite of the fact that they were isolated in widely separated parts of the world. On the other hand the three 1949 Canadian strains examined show evident diversity, and

overgrown by the A strain upon further passage.

The isolation of a PR8 type A virus during 1949 in Canada is of interest since during 1949 yet another type A WS virus was also isolated at Ankara, Turkey.⁹

The mouse pathogenicity tests confirmed the fact that the Newmarket strain behaved like the Saskatchewan and Arctic strains isolated during the same year by van Rooyen and McClelland (1949).¹⁵ The other five strains tested were non-pathogenic, and the interest in them lies more in the serological analysis. The Saint John strain is very closely related to the Cuppett FW50 strain and this is probably the first strain of FW50 isolated in Canada.

The lack of reciprocal serological relationship exhibited by the Edmonton strain may be due to some peculiarity of the chicken antisera and the point is being further investigated.

TABLE V.

CORRELATION AND INTERPRETATION OF HAI TESTS USING ROOSTER ANTISERA

Virus	Year of Isolation	HAI titres* with rooster antisera							
		PR8 T=4096	New1 T=4096	FM1 T=4096	Sweden3 T=2048	TR5 T=1024	FW50 T=256	SJ2 T=2048	Ed2 T=256
PR8	1934	T	2T	0	0	0	0	T/64	T/8
Newmarket1	1949	T	T	0	0	0	0	0	T/8
FM1	1947	T/64	T/32	T	2T	T	2T	2T	4T
Sweden3	1950	T/128	T/64	T/8	T	T/4	T/2	T/4	T
TR5	1951	0	T/32	T/8	T/2	T	T	T/2	2T
FW50	1950	0	0	T/128	T/4	T/8	T	T/2	T/2
SJ2	1949	0	T/64	T/64	T/4	T/8	2T	T	T
Ed2	1949	0	0	0	0	0	0	0	T

*T= titre with homologous virus; other titres expressed in terms of T.

differences were observed amongst the twelve Arctic strains investigated with rabbit antisera.

The analysis of the twelve Arctic strains reveals the fact that both A and A-prime strains were isolated from that single localized outbreak. Our findings confirm the work of Hilleman (1950)⁵ who used the strains isolated by Nagler *et al.* (1949)¹¹ from the same patients and indeed the same original pathological specimens. It would appear that the absorbed rabbit antisera gave results very similar to those obtained by Hilleman who used rooster antisera. In addition to these findings there were indications from our work that there may have been both A and A-prime strains in the individual specimens obtained from some of the patients. The presence of the strong A-prime components in the antiserum to CA11, and to a lesser extent in the antiserum to CA7 could be explained by the presence of an A-prime strain which had been

CONCLUSIONS

1. There is no significant antigenic difference, detectable with the hæmagglutination-inhibition technique, between a strain isolated in Sweden in June 1950, another obtained from London in the 1950-51 epidemic, and several representative strains isolated from different parts of Ontario in February 1951. The strains definitely belong to the A-prime subgroup and show relationship to both the FMI and the FW50 strains.

2. The three 1949 strains examined with rooster antisera differ from each other and from the 1951 strains. The Newmarket strain behaves like a PR8 strain and is mouse pathogenic. The Saint John strain is very like the Cuppett (FW50) A-prime strain. The Edmonton strain is distinctive in its lack of reciprocal HAI reactions but its antiserum has the properties of an A-prime antiserum.

3. An analysis with rabbit antisera of twelve strains obtained from the Cambridge Bay outbreak in 1949 shows that both A and A-prime strains were isolated from that epidemic, and there are indications that they may have co-existed in the early allantoic passage material from two of the patients.

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MALIGNANT TUMOURS OF THE TESTICLE*

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TESTICULAR NEOPLASMS are relatively uncommon, but are of sufficient interest to have received a good share of attention in the medical literature. During the past few years, however, large significant series have been presented, mainly from veterans' hospitals, and those associated with the armed forces.

This paper represents a review of the malignant testicular tumours contained in the records of the Cleveland Clinic. It includes 83 cases previously reported by Higgins and Buchert¹ in 1939, and 62 additional tumours seen in the intervening years. Of the latter group, 54 will be considered in some detail.

During the period covered by this survey, 524,564 patients were seen at the Clinic, giving a tumour incidence of approximately 1:3,600. This is considerably higher than that given by MacKenzie,² who found approximately one testicular malignancy to every 11,000 general admissions to the Royal Victoria Hospital. However, our cases include all the patients seen with this disease and not just those admitted to the Clinic hospital.

There is an unfortunate ratio of malignant to benign tumours, with the former being much more common. Although we do not propose to review the innocent lesions of the testicle ob-

served here, one of these is worthy of note, an adrenal cortical adenoma occurring as a benign tumour in an otherwise normal testicle.

ETIOLOGY

The etiology of malignant tumours of the testis, like carcinoma elsewhere, is unknown, but a number of factors frequently are attributed to being more than coincidental in their occurrence. It is now generally conceded that trauma, originally thought to be of some importance, has little to do with the cause of testicular cancer. However, it is possible that injury will at least stimulate a pre-existing lesion to more rapid and more obvious growth.

The percentage of patients giving a history of trauma, as quoted by different authors, shows a wide variation, and is reported as high as 38% by Rea.³ In our total series, 20, or 14%, gave a history of injury to the organ. Often this happened more than 15 years prior to the presenting complaint and seemed to bear no relation to the tumour. Only four of the 62 patients seen in the last 12 years gave a history of trauma. This would seem to indicate that injury of the testicle is not as common as formerly; however, the frequency of malignant lesions of the testicle does not seem to be decreasing simultaneously. Moreover, if trauma were a factor in the causation of tumour, one would anticipate a higher incidence of malignancy in inguinal undescended testicles, which are more liable to injury, than in those which remain in the abdomen. This is not apparent, however. In spite of a higher percentage of inguinal testes there are, according to Campbell,⁴ in a statistical review, about

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equal numbers of malignant abdominal and inguinal testicles.

In an analysis of our records, 89 patients fifteen years of age and over with undescended testicles were seen during a 12 year period. Twenty of these were bilateral, that is there were 109 undescended organs. Of this number 23 could not be palpated outside the abdomen. This ratio approximates other estimates. On the assumption that there will be an equal number of abdominal and inguinal malignant testes, this illustrates at least a fourfold tendency of the abdominal testicle to develop malignancy as compared to the inguinal cryptorchid.

It is almost unanimously agreed that there is a special predilection of the undescended testicle to develop carcinoma. To reach this conclusion, one must estimate the occurrence of non-descent in a large number of unselected adults. If maldescended testicles have no special predisposition to malignancy, this incidence should be the same as the percentage of cryptorchid malignant testes in a general series of neoplasms in this organ. This is far from the case. Campbell,⁴ in his excellent statistical analysis of figures from various sources, estimates the incidence of non-descent in the adult population at approximately 0.23%. There is close agreement on the percentage of cancer that originates in undescended testicles, Hinman⁵ (12.2%), Rea³ (10%), Gordon, Taylor and Wyndham⁶ (11.8%). In our series, only 11 malignant tumours were in testes that had not reached the scrotum (7.6%). This is somewhat lower, but nevertheless demonstrates that an adult with an undescended testicle is at least 33 times as likely to develop a malignant tumour in this organ as a person with both testes in the scrotum. Campbell⁴ says it can be assumed statistically that 1:20 abdominal testes will show malignant changes, while 1:80 inguinal testes will become neoplastic.

As a further indication of this as-yet-unexplained diathesis, Gilbert⁷ found that the abnormally-placed testicle was the one involved in 97.5% of tumours occurring in the patients with unilateral cryptorchidism. Pace and Cabot⁸ in 1936, in doing histologic studies on 24 undescended testicles removed at operation without suspicion of neoplasm, found that two, and a dubious third, showed early malignant lesions.

These observations lead to the conclusion that an abdominally retained organ in a patient past puberty should be viewed with suspicion. These

patients probably should be explored during their middle or late teens, and the cryptorchidism corrected by bringing the testis outside the abdomen for closer observation. If this is impossible, they should be removed. We agree with Kiefer⁹ that the possibility of malignant degeneration alone warrants orchiopexy even in an adult. Replacement of the testicle into the abdomen is to be condemned. Bilateral intra-abdominal testes present a more difficult problem, but the fact that the condition is bilateral further increases the chance of malignancy. It is unreasonable to suggest that both retained organs be excised, but it should be possible for at least one to be brought to the outside. It would seem logical to approach the left first, as this side is usually ahead of the right in descent.

Actually one of the 11 cases we are reporting as cancer in a cryptorchid occurred in one of bilateral undescended testicles that had been successfully brought down to the scrotum by surgery 11 years previously. When, in 1941, Gilbert⁷ reviewed the literature and found 63 cases of malignancy developing after orchiopexy he added 2 cases of his own. He found the average time interval between operation and recognition of a tumour to be 10 years. Other instances have been reported since, and in one large series⁶ of testicular neoplasms, 6 more instances of tumour appearing after orchiopexy are described. While surgical fixation of an undescended testicle into the scrotum lowers the chance of that organ becoming malignant, it certainly does not prevent it. Ectopia, *per se*, is not the cause of cancer, but probably in itself represents an endocrine dysfunction, this dysfunction being the predisposing factor in tumour formation.

In our series, as in almost all others, the right side was more commonly affected by tumour than the left. The right side was involved 61% of the time, the left 37%. Two cases were previously reported as being bilateral. This ratio cannot be fully explained, but it would seem to have some correlation with the fact that the right testicle is not only more frequently maldescended, but is usually later in attaining the scrotal position than the left.

PATHOLOGY

A detailed cataloguing of the many histologic variations of these tumours is unwarranted. A large percentage of instances of this uncommon

disease are observed by pathologists, surgeons and radiologists to whom a case of testicular cancer is a rarity. Any classification that will simplify their approach to therapy without affecting its adequacy is commendable.

For many years the most generally accepted classification was seminomata and teratomata. The former were noted for their homogeneity, uniformity of cellular structure and at least a temporarily good response to x-ray therapy. The latter, the teratomata, showed great variation in cell type and degree of malignancy and generally were poorly responsive to Roentgen treatment. The histogenesis of these tumours is a matter of considerable debate. One has the choice of believing that seminomata arise in the teratoma or that they have their histogenetic origin from the seminal epithelium. Willis,¹⁰ a contemporary exponent of the latter theory, has done much to enhance its logic. There is some general agreement that teratomata arise from a primitive germ cell capable of differentiations into many patterns of the three germ layers, either adult or embryonic.

Friedman and Moore,¹¹ in an excellent study of the pathology of 922 testicular tumours, proposed a new classification in 1946. This is rapidly becoming accepted in the United States.¹² They believe that 97% fit into one of four cellular types, but a tumour may have not only one but two or three of the cellular types as its components. "Adult teratoma" is made up of mature elements, most commonly of squamous epithelium, columnar epithelium, cartilage and smooth muscle; "seminoma" of uniform polygonal cells with clear cytoplasm, prominent nucleus and nucleolus. The stroma may or may not contain lymphocytes. "Embryonal carcinoma" of cellular type shows great variation but is basically a large cell with vacuolated or reticulated basophilic cytoplasm and anaplastic nuclei. The cellular pattern may be solid, granular or papillary. "Chorio-carcinoma" in pure form is the rarest of types, but more commonly occurs as a focal variation of one of the other tumours; it tends to duplicate placental villi. "Mixed", most tumours are in this category, with the commonest variation being a mixture of embryonal carcinoma and teratoma known as a "terato-carcinoma".

The pathology department of Cleveland Clinic is now using the above classification. Since many of our slides are not available for

reclassification and this article is not primarily a review of pathology of testicular tumours, we have simply divided them into seminomata and teratomata. It is well to remember, however, that no matter what classification is used there will be variation in the degree of malignancy within any one group.

SYMPTOMS

Presenting complaints naturally vary with the extent of the tumour and site of metastases, if these are present. Ordinarily, the first symptom is an increase in size of the testicle. Although testicular swelling is not always the primary complaint, nearly all patients have noticed recent increase in size.

Pain and tenderness are sometimes associated with the swelling, and when present it may be somewhat difficult to differentiate neoplasia from inflammation. Table I lists the primary presenting symptoms in 54 of our more recent tumours. We may note that in 22 patients, about 40%, back pain became the major complaint during the course of the disease. In 3 patients it was thought necessary to interrupt the pain pathways. Loss of weight as a presenting chief complaint is unusual and occurred in only one of our series. However, 11 others on inquiry gave a history of weight loss. These patients were chiefly in the group having had symptoms for a considerable time prior to diagnosis. The average weight loss was 17 pounds.

Metastases are capable of producing unusual initial symptoms (MacKenzie and Ratner¹⁴). One of our patients was first observed with moderately severe radicular chest pain, which proved to be a metastatic deposit in a dorsal vertebra.

Excluding one questionable history of a static swelling for "many, many years", the average duration of symptoms in these 54 patients prior to seeking medical advice was 3.2 months. This is in distinct contrast to our first series (16.7 months) and to Dean's¹⁵ series in 1929 (18 months), but is more in keeping with the time lapse found in a recent survey by Kimbrough¹⁶ of 3.4 months. It seems difficult to attribute this entirely to the modern tendency of consulting a doctor for less severe illnesses or to the present cancer-consciousness of the population. Certainly we are seeing patients today shortly after the development of the first symptom. Six of our patients sought medical treatment within 2 weeks

of testicular enlargement. The total duration of symptoms before establishment of the correct diagnosis was a little over 5 months. This difference of 1.8 months or 8 weeks was mostly due to a relatively small number of lesions being treated for many months as infections, hydrocœles and strains.

METASTASES

In spite of this relatively short symptom-to-diagnosis interval, 12, or 22% of the patients, had clinical or x-ray metastases when the diagnosis was made. Compared to 32.5% in our original series, it would again indicate that we, fortunately, are seeing these patients earlier. Obviously a considerably higher percentage will have secondary spread that cannot be felt or seen. These figures indicate the insidiousness and highly malignant character of most testicular tumours.

Spread of neoplasm from the testicle is (a) by direct extension, usually the latest and least

TABLE I.

PRESENTING CHIEF COMPLAINT IN 54 PATIENTS	
Increase in the size of the testicle.....	36
Swelling with pain and/or tenderness.....	7
Back pain.....	7
Girdle type chest pain (vertebral metastasis).....	1
Lower quadrant pain (cryptorchid).....	1
Weight loss (cryptorchid).....	1
Weakness and indigestion.....	1

seen; (b) by lymphatic spread, probably the most constant and most common method; and (c) by blood vessels, sometimes very early, but usually late and unpredictable. Direct extension with the growth travelling up the spermatic cord is usually limited to a short distance and has generally no special clinical significance. The neoplasm may spread to the skin with ulceration, but this condition is rarely seen today. Lymphatic spread is probably the commonest and most predictable course for metastases to follow. While blood-borne metastases generally occur later in the disease (with the notable exception of the chorio-epithelioma), they occasionally are the first indication of this form of cancer. In Table II we list the sites of metastases in decreasing order of frequency which were either present initially or occurred later in 34 of our patients. This is based entirely on clinical and x-ray findings, as the number of autopsies performed on this group is too small to be worthy of evaluation.

The generally accepted pathway for lymphatic spread is via the cord to the internal ring, along the spermatic vessels to where these cross the ureter. The course then deviates medially to the abdomino-aortic glands in the lumbar region, to the cœliac glands and thence to the mediastinum and supra-clavicular glands. Propagation of growth is usually by continuous extension, but apparently "skipping" occurs occasionally. Deviation from this with secondary spread to the lumbar glands of the opposite side probably occurs quite early. This has considerable implication in the therapeutic approach to the disease. Involvement of the external iliac group of glands usually implies retrograde spread or involvement of the epididymis in the primary growth. When the inguinal glands are the site of metastases, the growth in the testicle has spread beyond the tunica vaginalis and may be involving the scrotal skin.

Series of autopsied cases significantly large enough to be of value are not common in the

TABLE II.

SITES OF CLINICAL METASTASES IN 34 PATIENTS	
Abdominal and retroperitoneal glands.....	23
Lungs and pleura.....	13
Mediastinum.....	12
Supra-clavicular nodes.....	10
Brain.....	3
Bone.....	2

literature. Barringer and Earl¹⁷ in 1940 surveyed 37 autopsied cases gathered from the records of a number of New York hospitals. Regional lymphatic involvement occurred in the following order: inguinal 10.8%, pelvic or iliac 37.9%, lumbar 54.1%, cœliac 65.8%, mesenteric 18.9%, mediastinal 48.7%, bronchial 35.2%, and cervical 35.2%. They noted that when retroperitoneal tissue was involved, it occurred bilaterally in one-third of the cases. Metastases to abdominal and thoracic organs in descending order of frequency were given as lungs, liver, pleura, kidneys, adrenals, spleen and pancreas.

DIAGNOSIS

The diagnosis of this disease without exploration of the scrotum is usually easy, sometimes difficult, and occasionally impossible. The age incidence for this type of malignancy is lower than most other forms. The range from infancy to old age had been reported, one in a stillborn¹⁷

and another in a man of 80.⁶ The vast majority, however, fall into the 20 to 50 age group. In our series the average age was 36, with the youngest patient 20 and the oldest 65. Most large series show that teratomata occur at a slightly younger age than seminomata. This series is no exception, the average age for teratomata being 33 and seminomata 37.

The tumour mass is usually palpable on examination, but may vary greatly in size. The estimated average size when first seen by us was two and one-half times normal. The smallest growth was in a clergyman whose presenting complaint was a testicular nodule that his wife had noticed. It was only with some difficulty that we confirmed her observation. The largest was eight times normal size, but even this is small compared to an 11 pound 4 ounce tumour recently reported.²⁰

Compared with many other forms of cancer there is commonly a rather prompt correct diagnosis once the patient is seen. In our experience, the conditions most frequently causing delay in recognition are epididymitis and/or orchitis and hydrocœle. The treatment of these non-existent or co-existent conditions usually caused a short time lag, but in some it was disastrously prolonged. Six of our 54 cases had been treated as epididymitis or epididymo-orchitis. In Kimbraugh's¹⁶ series 7 out of 28 tumours had been treated for epididymitis. In our total series there were 23 associated hydrocœles, an incidence of approximately 16%. This high percentage should warn the clinician to suspect any hydrocœle of masking a more dangerous disease. All testicles should be palpated carefully after aspiration or at the time of operation for hydrocœle. In the 8 hydrocœles found in our more recent series of 54, two had deceived the examiner. One had been treated by a number of aspirations and another had been surgically repaired 3 months prior to the correct diagnosis. Continued enlargement of the testicle brought the patient to the Clinic and at this time he had abdominal and mediastinal metastases.

Tuberculosis and hæmatocœle are other conditions that might be confused with malignancy, but they can usually be differentiated by a thorough history and careful palpation. Gumma is fast becoming a rarity, and this diagnosis should be made with considerable trepidation, even in the face of a positive Kahn. Any lesion

that is at all suspicious should be explored. The surgical risk to the patient is negligible and the chance of causing physiologic harm is remote. Most lesions, to be considered in a differential diagnosis, in themselves will cause sufficient damage to the duct system to prevent viable sperm from reaching the vas.

Since 1929, when Zondek first examined the urine of patients with malignant disease of the testes for hormones, there has been much written about the value of bioassay in the diagnosis, classification and prognosis of these tumours. Tumours of the testicle are frequently associated with increased urinary hormones (prolan A and prolan B). Most clinicians, however, agree that the various modifications of the Aschheim-Zondek and Friedman tests have limited value. False negatives are not uncommon and false positives occur. Francis²¹ has reviewed the literature on this subject. Bioassay may be used to help confirm the diagnosis, but should never influence clinical judgment. A high titre of hormones suggests a more embryonic cell type, such as the chorio-epithelioma. However, not only the cellular structure, but also the bulk and extent of the primary and secondary growths influence the amount of hormone being excreted. We have found, as Hinman, Johnson and Carr²² have already noted, that a positive test suggests a poor prognosis in spite of any treatment. Only one of our patients lived over 2 years after it was demonstrated that his urine contained an increase in hormone. This man was showing evidence of metastases in his third year.

The test has been proposed as a method of detecting metastases prior to their obvious appearance although it should not replace clinical examination. Assuming that a positive is obtained, only a physical and x-ray examination will reveal the site of the secondaries, if present, and indicate the region that requires deep x-ray therapy. A number of our patients had urinary bioassays, some repeated frequently. Qualitative and quantitative Friedman and Aschheim-Zondek tests were used. There were 12 seminomata and 3 teratomata with negative results, and 9 seminomata and 8 teratomata were positive. It is probably these hormones which are responsible for the occasional occurrence of breast signs and symptoms with testicular neoplasms. In our recent group, 6 had enlargement of one or both breasts, 5 were teratomata (three chorio-epitheliomata) and 1 was a seminoma.

TREATMENT AND PROGNOSIS

It is unfortunate that this vicious disease, occurring as it does in young and middle aged adults, remains "silent" for so long and metastasizes so early. As we have previously noted, it so often happens that, when these patients come for examination, metastases have already occurred. Some encouragement may be gained from statistics of 20 to 30 years ago as compared with those of more recent times. The discovery of one of these tumours amounted almost to a death sentence not so many years ago. Tanner²³ in 1922, in a review of 465 cases with follow-up, found only 5.5% of the patients alive and well at the end of 4 years. The somewhat better outlook today can only be partially attributed to advances in surgery. Patients fortunately are seeking medical advice earlier, and more people are being routinely examined, as in the services, for insurance and employment. The science of Roentgen therapy has made considerable advancement in the treatment of malignant disease.

At present there are three generally accepted forms of treatment: simple orchiectomy with x-ray therapy, radical excision with or without irradiation, and irradiation alone. This latter method is usually reserved for advanced disease or when the patient refuses operation. Few people have sufficient enthusiasm for this treatment to use it as the only therapy in instances where metastases cannot be detected. Radical orchiectomy implies removal of the testicle and its tunica, the epididymis, the entire spermatic cord and the retroperitoneal lymphatics from the internal inguinal ring to and possibly including those at the renal pedicle. Among the early protagonists of the operation were Chevassu, Hinman and Gordon-Taylor. However, it gradually fell into disrepute. The mortality and morbidity were relatively high and the increase in the number of cures was questionable. Hinman²² and Gordon-Taylor,⁶ in subsequent publications have repudiated their former belief that this operation is the treatment of choice. In the last few years, however, the radical procedure has again been finding favour with some surgeons. With advances in anaesthesiology, the advent of antibiotics and the freer use of blood transfusions the mortality rate has now been reduced to a more acceptable figure. Lewis,¹³ who has had considerable recent experience with this operation, prefers the radical operation, and has encountered no operative mortalities in a consecu-

tive series of 169 radical retroperitoneal resections. This series has not as yet been followed long enough, however, there is an indication that at least the early survival rate is increased. Many of the patients apparently received million volt x-ray therapy in conjunction with surgery. Cahill¹⁸ believes that the radical operation presents no greater risks to the patient, but does give greater freedom from recurrences of the tumour.

Radical dissection on only one side seems to be a compromise. Lewis¹³ states that, in his operative experience, crossed metastases are rare and were only encountered when there was extensive precaval node involvement from a right testis tumour. This is not generally accepted. Barringer and Earl¹⁷ reported bilateral involvement in one-third of those with retroperitoneal spread. The frequency of metastases occurring across the midline is apparently one of the reasons that Hinman has discarded the operation. Kaplan, Cohen and Roswit¹⁹ in a therapeutic review of 158 cases concluded that adequate gland dissection is not possible, that dissection is not necessary unless nodes are present, and if glands are involved adequate removal is not possible.

Probably the most frequently used form of therapy at present is simple orchiectomy and x-ray irradiation. The removal of a human testicle could be carried out with confidence and great dexterity by veterinarians, farmers or the handyman. Aside from the question of asepsis, this operation should receive the benefit of more finesse than would be exhibited by these gentlemen. Tissue should be treated with consideration and the testicle handled gently before the cord, with its vessels, is ligated at the internal ring. Groves and Lawrence²⁴ rightly emphasized this fact in discussing orchiectomy for malignant disease. They found that patients seen at Pondville frequently had had the testicle removed through a scrotal incision, which implies considerable traction and manipulation of the tumour to cut the cord high up. It is also important that no inadvertent cut is made into the growth. This tumour appears to implant easily. Three of the 37 autopsies reported by Barringer and Earl¹⁷ had inguinal nodes involvement, believed to be the result of cutting the tumour at the time of operation.

The controlling or palliative dosage of x-ray varies somewhat with the pathologic picture.

Seminomata are generally radio-sensitive, while the various subdivisions of the teratomata are relatively radio-resistant. Kelby and Stenstrom,²⁵ in analyzing the results of treatment regardless of metastases, found that there was a 56% five year survival rate in seminomata, but of 29 patients with carcinomatous mixed tumours only one was alive five years later. Their patients were treated almost exclusively by simple castration and x-ray. There is some difference of opinion among radiologists and surgeons about the relative merits of preoperative and postoperative irradiation. Both viewpoints may have their value, but the promptness of therapy is more important. Probably the most frequent and most serious error in the treatment of the disease is delay in beginning irradiation. Orchiectomy at this clinic is followed immediately by x-ray therapy, whether or not metastases are present. All too frequently patients having had only castration some months previously are referred here when metastases develop. When secondary involvements are obvious, the malignant process is so far advanced that Roentgen ray therapy does not have a fair chance of even temporarily controlling this disease. There is an occasional exception to this behaviour and it is well illustrated by one of our cases.

CASE REPORT

A 41 year old man was observed first in January, 1939 with testicular enlargement. A diagnosis of tumour was made, but the patient refused either operation or irradiation. He was seen 13 months later with the tumour 6 inches in diameter. This time he was persuaded to undergo treatment. No metastases could be found, but prophylactic x-ray therapy was given to the abdomen after orchiectomy. Five months later, on routine check-up, metastases were diagnosed in the mediastinum and left supraclavicular nodes. These were irradiated and disappeared within several months. The following year a mediastinal mass was again evident, and further Roentgen therapy was given. In the early part of 1942 a large left axillary node was found, and this area was irradiated. These evident metastases disappeared and the patient has been seen a number of times since, feeling well and with no signs of recurrence. The last visit was in October, 1951, more than 11 years after the initial treatment. As is usually the case where one sees such an excellent response to x-ray, this tumour was a seminoma.

It is unfortunate that this is not the usual sequence of events, but we feel certain that more prompt irradiation would improve the "five-year cures". Using the million volt machine at the Walter Reed Hospital, Lewis¹³ was unfortunate in having 14 gastro-intestinal perforations following this therapy. A 200 KV. machine is used in this Clinic and, although the treatment takes

slightly longer, adequate dosage can be given with a minimal amount of systemic disturbance; in our group we have experienced no serious consequences.

The whole question of treatment for malignant testicular tumours is at present in a state of re-evaluation. It may well be that the operation of retroperitoneal gland resection will have its specific indication, probably in teratomatous tumours that are usually radioresistant. It will be difficult to refrain from a radical procedure if it can be shown that even a small additional number can be salvaged. We will probably have to look to the army and veterans' hospitals in the immediate future for further assessment of this question. Their large controlled series should solve some of the problems concerning the most rational approach to the treatment of this disease. They will perhaps have the advantage of earlier diagnosis and closer jurisdiction than we can hope for in civilian practice.

In estimating the prognosis of malignant tumours, one must be conscious of the fact that a five year survival does not constitute a cure. This truth is most applicable to seminomata of the testicle. Gordon-Taylor and Wyndham⁶ in one of the largest collected series on record, 636 patients with follow-ups, found that seminomata and teratomata had approximately the same immediate prognosis. By the fifth year, however, 82% of the patients with teratomata were dead, while only 47.5% with seminomata had died. At the end of 10 years, the figure for teratomata had changed insignificantly, with 85% having died; however, by this time nearly 73% of patients with seminomata had died. Regardless of the pathology, they found that 55.5% were dead in five years, as compared to 76.1% in 10 years. Thus 44.5% were alive at the end of five years a substantial improvement over those of previous decades.

Moore¹² has recently presented amazingly good five year survival rates. He states that after adequate therapy with surgery and x-ray, 90% of seminomata, 76% of teratomata, 30% of embryonal carcinoma and 20% of chorio-carcinoma patients are alive at the end of five years.

In our series, we had a satisfactory five year follow-up on 114 patients. Many of these were treated with what is now considered inadequate irradiation. In the early days some were treated by orchiectomy alone. A number of the patients seen here were referred late in the course of

their disease or came of their own accord in hopeful desperation. The outlook, of course, was particularly poor in this group. Two patients died of cardiovascular disease; one died from coronary occlusion, the other from malignant hypertension. The latter patient was autopsied and no evidence of secondary lesions was found. At the end of five years only 30 patients (27%) were still alive. So far we have seven patients who are alive at the end of 10 years. None of the 30 patients living five years and longer had metastases evident at the time of the initial examination.

In the more recent group observed it was possible to obtain a five year follow-up in 38 patients. Ten of these had metastases when first seen which signified a poor prognosis. With one exception all were dead within a year; the exception was a patient with a seminoma who died with clinical evidence of a brain metastasis in his third postoperative year. Table III shows

TABLE III.

SURVIVAL RATE OF 28 PATIENTS, TREATED MORE RECENTLY, WHO HAD NO EVIDENT METASTASIS AT THE TIME OF DIAGNOSIS

Dead in 1 year	2 years	3 years	4 years	Alive 5 years and over
7	6	2	1	12
4 teratomata 3 seminomata	6 teratomata	1 teratomata 1 lymphosarcoma	1 seminoma	10 seminomata 2 teratomata

the survival rate of 28 patients in whom no metastases were evident at the time of diagnosis. It is interesting to note that 10 out of 12 patients alive five years and longer had a seminoma. This is in keeping with the general observation that this type of tumour is much more radiosensitive than teratomata and therefore presents a better prognosis. The five year survival rate was only 43%, even in those patients diagnosed before metastases were detected and who were treated by orchiectomy and irradiation. Already two of the 10 patients who passed the five year mark have died, one 7½ years, the other 8 years after the operation. Another is being seen in his sixth year with secondary involvement present.

SUMMARY

It is apparent that malignant tumours of the testis remain as an unpleasant and a dangerous disease. At present we can offer no new form of treatment. In civilian practice, for the present at least, we have perhaps reached the best that can be hoped for in the symptom-to-examination

time interval. It is hoped that more prompt diagnosis by the medical profession will save more of those patients who are treated temporarily for the wrong disease. Universal acceptance of immediate postoperative irradiation should help in lowering the mortality. Radical operation is, at present, being reassessed and evidence may be forthcoming that this operation will further improve the outlook for patients with this disease.

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THE USE OF THE ABSOLUTE EOSINOPHIL COUNT IN THE DIAGNOSIS OF NEOPLASMS

In the study of a small series of pulmonary neoplasms it was found that leucocytosis was not infrequent and when the white cell count reached the levels of approximately 25,000 to 30,000 an absolute eosinophilia was present. This eosinophilia was not present with a comparable white count elevation due to pulmonary infection. It is suggested that the absolute eosinophil is of diagnostic value in differentiating a necrotizing neoplasm with leucocytosis from an infective process without neoplasia.—Murray, R. C.: *New England J. Med.*, 248: 848, 1953.

LUMBAR OR SPINAL ANÆSTHESIA
IN GENERAL PRACTICER. J. FRASER, M.D.,* *Hamilton, Ont.*

THE POPULARITY of lumbar anæsthesia has waned. This can be attributed to failure in technique on the part of the operator, and to improper sterilization of equipment and solutions. In some hospitals, lumbar anæsthesia is banned unless there is a definite indication for its use. This ban serves no useful purpose; mastering a technique does. The following lines are apropos:

Even as a Surgeon, minding off-to-cut
Some cure-less limb; before in use he put
His violent engines on the vicious member,
Bringeth his patient in a senseless slumber,
And griefless then (guided by Use and Art)
To save the whole, sawes off the infested part.
Du Bartas (1633) 1:6

These lines it seems sum up the reasoning of some of the members of our profession. "To save the whole, saws off the infected part"—the infected part being lumbar anæsthesia. This may be the easiest course, but it solves none of our problems.

Present day hazards are the same as when this method of anæsthesia was first introduced into surgery; these are: the introduction of infection, and possible nerve tissue damage, caused by concentrated or irritating solutions. These rank highest in morbidity now, as they did then. We now possess greater knowledge of anatomy, physiology, pharmacology, and toxicology, and this knowledge gives us our techniques of physiological anæsthesia. If we are to keep this type of anæsthesia in a favourable light, in comparison with other methods, we must follow rigid rules of procedure.

Lumbar anæsthesia, properly administered, is no more dangerous than anæsthesia by other methods. All factors being equal, the record of mortality for lumbar anæsthesia is lower than that of anæsthesia by other methods. On the other hand, statistics are of but little value; in the majority of cases they serve only to prove a point. Our statements are based on personal records of twenty-five years' experience and we are still doing approximately 50% of operations below the diaphragm with lumbar anæsthesia with results quite comparable with other methods. We firmly believe that if lumbar anæ-

sthesia continues to be excluded, as it has been in some centres, anæsthetists will not be giving their best, surgeons will not receive the best, and the needs of the patient will be neglected in some cases by the anæsthetist.

If the surgeon or anæsthetist is satisfied to forego the aid of lumbar anæsthesia, we are safe in saying that they are easily satisfied and their mortality and morbidity will be greater on that account.

Relief from pain is purchased at a price. Whether the price is high or low depends upon the ability, judgment, and experience of the anæsthetist. Some one has said—"A good surgeon deserves a good anæsthetist, a poor surgeon needs one." A good anæsthetist examines his patients, prescribes after examination, never uses a routine, and thinks in terms of physiology.

The very name of spinal, or more properly termed lumbar anæsthesia brings to our mind the names of Corning and Bier, pioneers in this type of anæsthesia. Since their time a host of names has been added. The history and the progress of lumbar anæsthesia is full of interest to most physicians, more so to surgeons and anæsthetists. No one person can be given the credit for the technique of lumbar anæsthesia as we know it today; many have contributed to its present status. It was my pleasure to know many of the pioneers in this field of anæsthesia, including Matas who gave the first lumbar anæsthesia on this continent.

In 1900 came a deluge of trial and error for which we may make some concessions. Bier was one who protested in vain against the recklessness with which the method was being used. After fifty years we still hear the re-echoing of the departed spirit of Bier. If we search diligently our own techniques we may find the answer for the wave of unpopularity which overtook this method in some of our own operating rooms.

We still have medical men untrained in this procedure who know little of surgical technique, considering the contents of the ampoule as the dose to be given. These statements may be harsh, but unfortunately they are true. When one is about to use this method of anæsthesia, he should understand that a successful puncture and the giving of an anæsthetic solution may be satisfactory in producing lower and mid-abdominal anæsthesia for many cases with minimal doses of anæsthesia, but this knowledge is inadequate when high or prolonged anæsthesia is to be administered.

Lumbar anæsthesia is a form of regional block involving part of, or the entire body. All the nerves of the body, without exception, traverse the subarachnoid space and are easily blocked by intrathecal injection of an anæsthetic agent. This may be accomplished safely by the injection of a properly diluted sterile solution of a local

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anæsthetic drug, in a predetermined dosage, either singly or serially, as used with the continuous technique. This procedure has been termed spinal anæsthesia, spinal analgesia, subarachnoid nerve-root block, rachianæsthesia, lumbar block, or lumbar anæsthesia. We prefer the latter and teach our nursing and intern staff to refer to this type of anæsthesia as lumbar anæsthesia, thus eliminating a terminology associated with fear by many patients. This procedure, when conducted with proper premedication, with asepsis and gentle care, will yield anæsthesia comparable, if not superior to, many other modern techniques. In this connection it must be remembered that in general practice lumbar anæsthesia may be the only anæsthetic employed; therefore, proper and adequate premedication is a "must" in order to insure good anæsthesia.

With early methods of sterilization it is surprising that we did not encounter serious complications. Many have been the methods used and we are sure, that of necessity, we have tried most of them. We were not always supplied with ampoules of a sterile solution. From crude methods we gradually improved our means of sterilization by immersion of ampoules in various solutions, plain and coloured, until at the present time we sterilize all drugs and equipment by autoclaving. By this means only can we be sure of absolute asepsis.

Meningeal irritation or infection is a grave complication of lumbar anæsthesia, and it is the responsibility of the anæsthetist to see that it does not occur. It can be avoided through proper care of equipment and observance of faultless techniques. Ampoules must be identified as to contents and dosage, and examined for cracks; this cannot be over-emphasized. The operator should scrub his hands as for surgery, wear a cap, mask, gown and gloves and employ a no-touch technique in preparing the solutions. The patient's back should be prepared with more than one application of an antiseptic solution. We prefer three applications of alcohol applied with sterile swabs; a large area is cleansed first, next a smaller area with a clean sponge, and the final and third application is applied over the proposed site of puncture. A sterile fenestrated sheet is used to drape the patient's back prior to local anæsthetic and lumbar puncture.

The following may be regarded as contraindications to lumbar anæsthesia; infection at

the site of injection; when the theca cannot be punctured; tumours of the brain; meningitis; turbid spinal fluid; and septicæmia with positive blood culture. It may not be advisable to use lumbar anæsthesia in shock, advanced myocardial degeneration, diseases of the central nervous system, extreme curvatures of the spine, arthritis of the spine, nervous patients, and those who refuse lumbar anæsthesia. These patients are better handled by other methods.

Lumbar puncture is a necessary preliminary to anæsthesia. It should be performed without hurting the patient, and with minimal trauma. This is ideal. It is a minor surgical procedure in which ordinary surgical technique is not good enough. We know that the abdominal cavity is capable of resisting a certain amount of irritation and infection, more so with the aid of antibiotics; we have no such assurance with regard to infection within the subarachnoid space. Spinal fluid contains no antibodies. Peritonitis, following abdominal surgery, is more acceptable than meningitis following lumbar anæsthesia. All details of asepsis must be observed. If sepsis and chemical irritation could be eliminated, the major hazards of lumbar anæsthesia would be practically nonexistent. Sepsis can be eliminated by care, common sense, and self discipline. By the latter we mean, do not break technique. Chemical irritation can be eliminated by using non-irritating anæsthetic agents in low dilution. This is important and cannot be overemphasized.

Since we first used this type of anæsthesia we were aware of the danger of infection and meningitis from faulty technique, due to improper sterilization of needles or syringes, or from the drugs used. We have employed various methods of sterilization with different solutions. We do not trust ampoule sterilization by immersion in any solution and we do not employ this method in our operating room technique. We are aware of the fact that small amounts of solution may enter the ampoules through microscopic cracks, and may not be detected in the solution. Even with coloured solutions this is possible. If a contaminated solution is injected into the subarachnoid space, it may cause irritation or infection. This actually has been done. Since there are no antibodies in the spinal fluid, it is quite conceivable that arachnoiditis or meningitis is a possibility. The only known drugs secreted into the spinal fluid are urotropin and certain soluble sulphonamides. If one has the

misfortune to have, or the opportunity to treat, an infection following diagnostic puncture, or lumbar anæsthesia, the aforementioned may be of value. Sulfadiazine plus alkalization may be used for the treatment of meningitis. Since Elkosin (Ciba) has a greater solubility, a higher antibacterial activity, and can be used with a high margin of safety, it is worthy of investigation.

We are of the opinion that drugs, other than the anæsthetic agent, with glucose, or glucose saline, are sufficient for lumbar anæsthesia. The concentration of these drugs must not exceed certain percentages. Other agents used to prolong anæsthesia are unnecessary, of doubtful value, and may be harmful. Only physiological solutions, found in the spinal fluid, should be used. This is our opinion after careful clinical investigation and evaluation.

Lumbar puncture.—The puncture is performed either in the sitting or the lateral position; we prefer the right lateral. Since the spinal cord ends at the lower border of the body of the first lumbar vertebra, it is good practice not to do a lumbar tap higher than the second lumbar interspace. We prefer a 20 gauge needle, although smaller ones may be used. The needle should have a stylet and a short bevel. We sometimes use a Sise introducer to puncture the skin and as a director for the needle.

With the patient in the right lateral position, and the back cleansed and draped, the interspace is chosen. This is done as follows: the back is placed even with the edge of the table, with the knees drawn up over the abdomen with the head flexed upon the chest, and the back arched; the first manœuvre is to locate the crest of the ilium with the left hand. The space opposite the crest is chosen; this will be between L3 and L4, and is below the cord and safe to use, for all heights of anæsthesia. With the thumb and index finger of the left hand, palpate the long axis of the spinal column. With the thumb or index finger the interspace is identified. The skin and subcutaneous tissues are injected with 1% procaine without an anæsthetic. The introducer, if used, is inserted in the centre line for about one-half inch. It is slanted slightly cephalad; the needle is then inserted through the introducer and pushed forward gently until the ligamentum flavum is pierced, then through the epidural space, until the dura is reached and pierced. If bony obstruction is encountered, the needle must be withdrawn, to be reinserted at a slightly different angle. If after several trials, bone is still encountered, the introducer should be withdrawn and reinserted at a different place in the same interspace, or as a last resort in another interspace. If a nerve trunk is touched by the needle, the patient will complain of a sharp pain at the distribution of the nerve. This denotes a deviation of the needle from the mid line. The needle should be withdrawn, and reinserted, keeping its direction away from the side on which the pain occurred. When the needle has been correctly inserted and the dura has been pierced, withdraw the stylet, and fluid should flow from the needle. If a clean tap has been made, a free flow of fluid should result. This is not always so. Aspiration may start the flow and rotation of the needle may do the same. Sometimes the spinal fluid is blood-tinged; this usually means that the point of the needle has gone too far and punctured a vein on the anterior surface of the spinal canal. A slight withdrawal of the needle will usually obtain clear spinal fluid. The anæsthetic solution may now be given.

A careful and painstaking technique of lumbar puncture is well worthwhile, for upon it depends the success or failure of anæsthesia. One should take time to have the patient in the proper position; to make positive identification of the bony landmarks; to pick out the interspace; to use plenty of local anæsthetic and premedication, and not to hurt the patient. We should protect the patient from cord injury, nerve injury, from tears in the dura, multiple punctures, and vein hæmorrhage. Further still, the site of the puncture must be non-infective, the solutions must be sterile and free from biological or chemical irritants. If we are still to enjoy the advantages of lumbar anæsthesia we must be capable of keeping our technique as free as possible from the dangers of trauma, infection, and irritation. If we cannot do this by following an aseptic technique, nor do a lumbar tap with ease, it would be better not to attempt this type of anæsthesia, and one should resort to easier and simpler methods.

One of the most common reasons why people object to lumbar anæsthesia is because they, or some one they know, has been subjected to this procedure by an inexperienced physician. Some people are more adaptable to learning techniques than others. We are safe in saying that we have committed most of the errors in lumbar anæsthesia before arriving at what we consider to be the best present-day technique. We are fortunate to be able to say that we have no cases of permanent morbidity, except mortality, and that has not been in excess. We have had no nervous sequelæ except headaches. We do not think that the size of the lumbar puncture needle is a factor in producing headaches. Nor do we think the loss of spinal fluid is a factor. We base these statements on the fact that we use a No. 17 gauge malleable needle in the continuous lumbar technique, and have drained off as much as 70 c.c. of spinal fluid postoperatively without an increased incidence of post-spinal headache.

We are of the opinion that irritation from foreign bodies from the products of sterilization, improper cleaning of syringes, the injection of small particles of microscopic material such as lint is more apt to be the cause than the loss of spinal fluid.

Before we discuss techniques of lumbar anæsthesia, there are a few fundamental facts that should be reviewed and remembered. When an anæsthetic agent is injected into the subarach-

noid space, the agent tends to move in accordance with the laws of gravity. This movement depends upon the specific gravity of the solution, in relation to the specific gravity of the spinal fluid. Solutions may be heavier than, equal to, or lighter than spinal fluid; in the following order they are hyperbaric, isobaric, or hypobaric. In all techniques specific gravity plays an important rôle. This is specially true with concentrated hyperbaric solutions and with hypobaric solutions. The hyperbaric or heavy solutions gravitate to the dependent positions of the spinal canal, while the hypobaric or light solutions flow upward to the elevated body positions. These rules are fundamental and must be observed in order to control the height of anaesthesia. The position of the table and the patient should always be the first part of the technique.

The above rules are conventional and, not being conventional, we use other methods which we consider more accurate and safer. We believe the modern trend in lumbar anaesthesia is the usage of a dilute solution, and the use of specific gravity as a secondary consideration. We do not accept the method of injecting a concentrated solution as being the best or safest method of inducing lumbar anaesthesia, except when the total dosage is minimal. We prefer a volume control technique in which larger volumes of a dilute solution of a definite known strength, varying with the age, and condition of the patient, is injected into the subarachnoid space, below the termination of the cord in the lumbar region. This injection will produce a massive displacement of the spinal fluid cephalad and further dilution of the anaesthetic agent. Height of anaesthesia is attained by the volume given. Safety is maintained by proper dilution and the position of the patient is a secondary safety factor, as also is the position of the table.

PROCAINE TECHNIQUE

In all techniques premedication is given, which includes a barbiturate, morphine and atropine with hyoscine, in proper dosage. For this technique, we use procaine hydrochloride crystals, 150 mgm. ampoule, and for the solvent we use 5 c.c. spinal fluid, each c.c. contains 30 mgm. of procaine in a 3% hyperbaric solution. We consider this to be an average adult dose and it should not be exceeded by the beginner. The puncture is done below the termination of the cord, either in the sitting or the lateral position.

We do not use ephedrine unless indicated. We use no barbotage, and the rate of injection is 5 seconds per c.c. This method is controlled for height of anaesthesia by gravity, and being hyperbaric flows to the dependent positions of the spinal canal.

For perineal anaesthesia, the patient is kept sitting for three minutes after the injection, or the table may be in the reverse Trendelenburg, if the injection was made in the lateral position. The dose for rectal work is 2 c.c. or 60 mgm.; for a plastic vaginal, the dose should be increased up to 4 c.c. using gravity control as in rectal anaesthesia. When anaesthesia is required up to the umbilicus, after the injection of 5 c.c. the patient is allowed to have a pillow under the head, and the table is kept horizontal. When anaesthesia is required up to the costal margin, the patient is allowed a pillow under the head, and the height of anaesthesia is attained by moderate Trendelenburg position. When the desired height is attained, the table is then placed in the horizontal position. After the anaesthetic is fixed, which is about ten minutes, any desired position may be used. This is a very simple method, easily taught, and quite reliable for anaesthesia up to approximately one hour's duration. Another very useful procaine technique for rectal surgery is as follows: dissolve 50 mgm. procaine in 1 c.c. spinal fluid, using a tuberculin syringe; inject in the sitting position; keep the patient sitting for three minutes; operate in any desired position.

Another procaine technique that we use and teach our interns, is the use of a 1% solution of procaine in saline. This solution is slightly hyperbaric and is controlled by volume alone. The reason for the 1% solution is that it requires a 1¼% solution of procaine to paralyze the phrenic nerves. In this technique we are employing a sublethal concentration of anaesthetic agent. This is the safest technique we employ and teach. It is also the least effective for muscle relaxation. It is of particular value in obstetrics. We employ 7 c.c. between labour pains without barbotage. Part of the vial is used for local infiltration prior to lumbar puncture. This is a safe, simple, and easy-to-learn technique of proved value in obstetrical anaesthesia.

PONTOCAINE GLUCOSE TECHNIQUE

This technique is one devised by Sise, and is one of the more popular methods. If one expects

to obtain the good results of the originator, one must follow his teachings. When this is done it is an excellent technique. Many of the misadventures are caused by failure to adhere to the details. The dosage varies according to the nature of the operation and the time consumed. Estimation of the dosage is a matter of judgment; controlling the height of anæsthesia is by gravity, and since this solution is hyperbaric it gravitates to the dependent parts of the canal. A pillow should be placed under the shoulders and head at all times. The table is tilted with the head down to attain height of anæsthesia. When the desired height is attained, the table is placed in the horizontal position and kept this way until the anæsthetic is "fixed", then any operative position may be used.

The solution is made by aspirating the contents of the Pontocaine ampoule, 20 mgm., 2 c.c. of a 1% solution, and the contents of a 2 c.c. glucose 10% or 2 c.c. glucose 10% saline mixture into a 10 c.c. Luer-Lok syringe; mix this solution. The whole dose if given without supervision could be lethal. The average dose for abdominal surgery is 10 mgm., for upper abdominal surgery 12 mgm. may be used.

PONTOCAINE GLUCOSE PROCAINE TECHNIQUE

This, at the present, is our favourite technique. We have used it for over ten years with success. Preoperative premedication is used. The solution is made by aspirating the contents of the Pontocaine ampoule, 20 mgm. of a 1% solution, and the contents of a 2 c.c. ampoule of glucose 10%, or glucose 10% saline mixture same volume, and add 6 c.c. of a 1% solution of procaine saline from an ampoule. Mix the solution. It is now ready to use without barbotage. Each c.c. of the solution contains 2 mgm. of Pontocaine and 6 mgm. of procaine in an 0.2% hyperbaric solution of Pontocaine. This solution is capable of producing satisfactory surgical anæsthesia for approximately 1½ hours within the abdomen.

The control is for the major part by volume injected, to a lesser degree by gravity. The patient's head is kept on a pillow with the table in the horizontal position. No testing is required.

Abdominal anæsthesia may be demonstrated by the observation of aortic pulsation through the muscles of the abdominal wall, visible over the abdomen. No analeptics are given prior to anæsthesia. An intravenous is commenced in all

abdominal and long cases, and fluids are given as required. When operations are to be done with the patient on the side, *e.g.*, kidney or disc, the patient is placed on his back immediately after the injection and kept in this position for a full five minutes. After this the patient is positioned for operation. We prefer the right lateral position for the administration of anæsthesia.

The adult dosage for lower abdominal work is 5 c.c., for upper abdominal work 7 c.c. of 0.2% Pontocaine. For the extremely ill, and the older patients, the Pontocaine is cut by half, all others are as shown as above with a total volume of 10 c.c. Each c.c. of this solution contains 1 mgm. of Pontocaine in a 0.1% solution, and the doses in the aged are less than in the middle-aged, the so-called "good risk" patient. We use the 0.1% hyperbaric solution for Cæsarean section in 5 c.c. or 5 mgm. dosage.

PONTOCAINE 0.1% HYPOBARIC TECHNIQUE

Learning a technique is more easily accomplished by observation and application than by listening to a lecture. The more one practises a given technique, the more skilful and proficient one becomes. For the beginner, we cannot stress this fact too strongly. After considerable experience, we may then depart from this practice. Let us be content for the present to rest on others' laurels until we are thoroughly prepared to investigate new or untried methods. Always err on the side of safety. In so doing, you may have a failure in anæsthesia, which is no disgrace, however you still have a chance to anæsthetize the patient, using another method. This comprises the art of anæsthesia.

SUMMARY

Anæsthesia, at times, is a complicated, exacting science, and the administration should be carried out by a physician well trained to administer to the needs of the patient while under anæsthesia. He must be a diagnostician, capable of treating the emergencies that arise during anæsthesia and surgery, such as combating anoxia, and the replacement of blood and fluid loss, as well as carrying out tracheo-bronchial aspiration, and resuscitative measures, when required.

If we appear to be enthusiastic in regard to lumbar anæsthesia we also have found time to explore other fields of anæsthesia. This we do, in order to fulfill the requirements of the de-

partment in a well organized general hospital. Exclusion of any good technique is a retrograde step. We must master all techniques if we are to call ourselves anaesthetists.

In this paper we have laid stress on sterilization of ampoules and equipment by autoclaving. This is most important. We have also stressed, to a lesser extent, dilution technique; this, to us, is also important. The proper preparation of the operator and the patient is described, also a method for lumbar puncture and specimen tech-

niques used. No solutions should be used in the present day sterilization of ampoules or equipment in lumbar or injection techniques.

We have kept ourselves from serious trouble for the past twenty-five years by adhering to what we thought was the best technique. From time to time we had to change our views in order to keep up-to-date. Our experiences are offered as an aid only.

NOTE: Procaine in saline 1% was supplied by the Synthetic Drug Co.

EPIDEMIC KERATOCONJUNCTIVITIS*

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EPIDEMIC KERATOCONJUNCTIVITIS (E.K.C.) was first seen on the North American continent in 1941, when extensive outbreaks occurred on the west coast of the United States. One of the early epidemics was in the shipyards in Portland, Oregon, where the disease was popularly referred to as "shipyard conjunctivitis". Sporadic outbreaks soon appeared in other sections of the United States. Since it characteristically affected workers in industrial plants, the infection was popularly labelled "industrial pink eye".

We now know this disease is not a new one. As early as 1889 Adler¹ described outbreaks of eye disease similar to E.K.C. occurring in Europe and Asia. In 1940 and 1941 an epidemic amongst school children involving 10,000 individuals in Hawaii was reported by W. J. Holmes.² Hogan and Crawford³ who reported the first cases on this continent, assumed that American servicemen, returning to the United States, brought the disease from Hawaii. Canada, fortunately, has had little experience with epidemic keratoconjunctivitis. Ramsay⁴ in 1951 reported the only two cases to appear to date.

During 1942-3, epidemic keratoconjunctivitis was prevalent in the highly industrialized Detroit area. In adjacent Windsor no epidemic occurred within industries at that time, although a few

patients with the disease were treated by one of us privately (J.P.B.).

No evidence of the disease was seen until the winter of 1947-8, when in a seven-month period, 158 cases of E.K.C. were diagnosed in the infirmary of the Ford Motor Plant. During that same winter many patients with the disease were seen by one of us (J.P.B.) in office practice in Windsor. Verbal reports from other oculists in the city established the fact that the disease was widespread in the area at that time and that it affected all segments of the population.

From 1948 to 1951 we were not aware of any cases of E.K.C. in the Windsor area. In March, 1951, however, at the infirmary in the Ford Motor Plant, the number of patients reporting with eye symptoms suddenly increased. These patients were complaining of a mild irritation in one or both eyes and were not thought to be other than the usual eye infections seen commonly in industrial practice. It was soon evident that there was no response to the usual therapy and we became concerned at the increasing numbers of patients under treatment.

Between the second and third weeks following the appearance of the first cases, the nature of the disease changed abruptly. The onset of the symptoms was rapid and the course more acute. Corneal opacities occurred in the majority of those acute cases and were readily seen under reflected light.

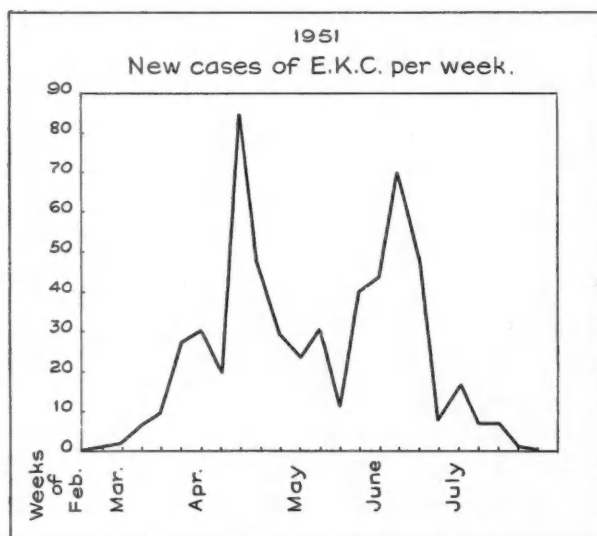
Table I indicates the new cases appearing between March and July, 1951. As the epidemic was subsiding in July, the eye infections were again much less severe and resembled those of the first patients encountered during May. So mild was the disease at this stage that we believe many of those infected did not report to the infirmary.

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DIAGNOSIS

In a typical case of E.K.C. the onset of the symptoms was abrupt. The photophobia, tearing and foreign body sensation frequently suggested the possibility of a corneal or conjunctival foreign body. When the second eye was infected, invariably the symptoms were less severe and the interval between was seldom less than five days. The preauricular node on the affected side was always palpable and frequently tender. Follicles in the lower fornix were present, but never prominent. Pseudo-membranes were present in some of the more acute cases. Corneal opacities were round, deep, centrally placed, and sharply circumscribed. They occurred in the very severe cases, but were infrequent in those with mild manifestations. They appeared about the



ninth day of the disease and were the cause of a varying degree of visual impairment. In some of these eyes, the opacities were still present at the end of a year.

Laboratory studies consisted of conjunctival cultures for bacterial pathogens. The vast majority of eyes did not reveal significant growths of organisms. *Staph. aureus* was occasionally reported. Cytology studies, employing conjunctival scrapings stained with Giemsa, revealed a heavy lymphocytic response.

TREATMENT

Table II indicates the therapy employed in 549 cases of E.K.C. These figures represent those patients who came to the infirmary twice daily for instillation of drops or ointments and who, in addition, employed these same agents four or

five times daily themselves. There was little evidence of improvement from any treatment employed. It is of interest that those treated with cortisone had a slightly higher incidence of corneal opacities than those who received no hormonal therapy.

TABLE II.

EFFECT OF TREATMENT IN EPIDEMIC KERATOCONJUNCTIVITIS			
Therapy	No. of cases	% with opacities	Average duration of treatment
Terramycin ointment ¹ .	227	9.3	20.7
Terramycin ointment & sulphacetamide drops ² .	67	11.9	32.0
Terramycin ointment & penicillin i.m.	29	20.7	25.0
Terramycin ointment			
Aureomycin ointment ³			
Sulphacetamide drops			
Penicillin i.m.	11	18.1	29.0
Terramycin ointment			
Aureomycin ointment..	7	14.2	22.6
Terramycin ointment ⁴			
Cortisone drops.....	156	20.0	26.7
Terramycin ointment			
Sodium propionate ⁵			
Cortisone drops.....	8	37.5	18.6
Terramycin ointment			
Penicillin i.m.			
Cortisone i.m. ⁶	2	50.0	26.0
Treated outside plant..	42	38.1	23.1

13 additional cases failed to report at regular intervals.

1. Terramycin ophthalmic ointment..... 0.5%
2. Sulphacetamide (Schering)..... 30.0%
3. Aureomycin ophthalmic ointment..... 1.0%
4. Cortisone suspension..... 2.5%
5. Sodium propionate, (Wyeth).....
6. Cortone (Merck)..... 100 mgm. daily.

TABLE III.

FOLLOW UP STUDY OF PATIENTS WITH CORNEAL OPACITIES			
	Disease duration one year	Patients	Percentage
1951	Total E.K.C.	549	
	Corneal opacities	89	16.2
July 1952	Residual opacities, visual symptoms	29	5.2
	Opacities absorbed, complaining of eye symptoms	13	
	Opacities absorbed, no symptoms	21	
	Unable to contact for study	26	

LATE EFFECTS

Table III indicates the follow-up study of those patients developing corneal opacities during the course of their eye infection. Although there were only 89 patients in 549 who developed opacities (16.2%), it is worthy of note that it was

possible to observe closely the majority of patients, even though their symptoms were mild. Few patients with mild symptoms developed corneal opacities. During the height of the epidemic when the course of the disease was more acute, opacities were relatively more common.

One year after the epidemic, 29 of the 61 patients contacted still had corneal opacities with resultant visual disturbance. All of these complained of some photophobia and tearing at this time. Of the 34 patients whose opacities had become absorbed, 13 still complained of photophobia and lachrymation. Twenty-six of the 89 patients had left the employ of the company and no follow-up was possible.

PREVENTIVE MEASURES

As soon as it was evident that an epidemic of eye inflammation was in progress, certain measures were taken to prevent its spread from one individual to another.

Since the infirmary was the focus for all sick and injured, strict measures were instituted to prevent contagion at this point. All eye cases were segregated in the waiting room and kept standing with arms folded. Treatment chairs without arms were placed in a separate room used only for infected eye cases and these patients were treated at certain hours set aside for them. A sick-bay attendant well versed in handling eye cases, was in charge of all infected eye procedures and the other attendants had no contact with them. He did not treat any clean cases. All eye solutions were made up fresh from stock daily and a freshly autoclaved dropper was employed in the treatment of each patient.

Within the plant warning notices were posted about concerning the possibility of spread of the infection to the eyes with the fingers, since these were in contact with potentially infected door handles, wash basins, drinking fountains and motor parts passing from one worker to another along the assembly lines. Precautions in the home were advocated, such as the use of individual soap, towels, bedding and dishes.

The earliest infections were mild and workers found it possible to carry on their jobs with only minimal discomfort. Later, as infections became more severe, some men were sent home for treatment. When both eyes were involved, even to a mild degree, some workers found it difficult to carry on and these individuals were sent home.

It is possible that all infected individuals could have been isolated from the working area immediately upon establishment of a diagnosis of E.K.C. This would have meant serious economic loss to them and it was our constant hope that the epidemic would respond to control measures without extensive spread and with minimal financial loss to the working population. No controls seemed effective in preventing spread from one individual to another within the plants.

ECONOMIC LOSS

Ninety claims were filed with the Workmen's Compensation Board and of these 67 were accepted. Total compensation and insurance paid to workmen amounted to \$3,500.00. Loss of work for treatment alone amounted to an estimated 10,000 man-hours. This meant a loss to the company of \$14,000. Additional drugs and supplies employed in these cases cost \$515.00. Loss of time by men who remained away from work and who did not receive compensation is estimated at \$3,150.00. In addition to this there were intangible losses from impaired efficiency of workers suffering from the disease.

DISCUSSION

The benign course of the first cases of E.K.C. occurring during the first three weeks of this epidemic and of those in the last month of the epidemic suggest a gradually increasing virulence in the virus as the epidemic progressed to its height, with a subsequent decrease of virulence to the point where it was no longer infective. It is possible that immunity in the non-infected workers was also a factor in the control of the epidemic.

SUMMARY

1. An epidemic of epidemic keratoconjunctivitis affecting four plants of the Ford Motor Plant is described.
2. The disease was benign at the onset, resulting in difficulty in establishing an early diagnosis; acute at the height of the epidemic; and as the epidemic terminated, the symptoms were mild and the clinical signs atypical.
3. Economic loss due to the epidemic was severe, due largely to loss of production resulting from all factors affecting the efficiency of the workers.

4. Advantage was taken of the unique opportunity of studying the effects of the new antibiotics and cortisone in the treatment of E.K.C. No form of treatment had any significant effect on the course of the disease.

THE MIDDLEBROOK-DUBOS HÆMAGGLUTINATION REACTION IN THE DIAGNOSIS AND PROGRESS OF TUBERCULOSIS

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IN 1948, MIDDLEBROOK and Dubos¹ described the "hæmagglutination test" for the detection of small amounts of antibody against one or more polysaccharide antigens of mammalian tubercle bacilli. Other workers had shown that red blood cells are capable of adsorbing various antigenic substances and can be specifically agglutinated and precipitated by preformed serum antibody against the substance adsorbed.

There had been considerable interest in the literature on the technique and methods of the test, as well as its diagnostic and other values. Middlebrook² suggests the limits of usefulness of the hæmagglutination test for tuberculosis to be as follows:

"(1) The high degree of specificity with a reliable antigen suggests that a positive reaction at 1:8 or higher is presumptive evidence of disease due to a tubercle bacilli or to a *Mycobacterium* very closely related in antigenic structure. (2) A certain percentage of individuals with clinically active tuberculosis will fail to give a positive reaction; in some because of the severity of their illness, and others because they do not respond with antibody production against the antigen involved in the test. (3) The test will become negative after a period of freedom from spreading disease even if viable tubercle bacilli are still present. (4) Reactivation of the disease may be detectable by the hæmagglutination test before other evidence is obtainable. (5) No conclusions are justified concerning the state of resistance of the individual on the basis of the results of the test; nor can the titre of reaction be a measure of activity of the disease. (6) As is the case with any other laboratory procedure, undue stress on the hæmagglutination test in contrast to a comprehensive clinical, bacteriologic and roentgenographic evaluation of the patients will constitute bad medical practice."

Rothbard *et al.*,³ who seem to be the most enthusiastic proponents of the test, state that in

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216 normal adults, syphilitics and non-tuberculous chest cases, 94% gave a negative reaction and the remaining 6% were positive in a dilution of 1:4 or less; that in 33 cases of apparently cured tuberculosis (*i.e.*, inactive more than 7 years) 94% were negative and the other 6% only positive in 1:2, while in 168 patients with active tuberculosis 92% showed a reaction of 1:8 or higher. French workers, in general, agree with Rothbard and regard the test as being of considerable diagnostic aid.

On the other hand, Levine⁴ found that only 10% of leprosy cases were less than 1:8 while 23% of active tuberculosis cases gave a hæmagglutination reaction of less than 1:8. Smith and Scott⁵ found the reaction "not a test for determining the clinical activity of a tuberculous lesion", having in their series a positive test in 13 of 84 healthy students and a considerable variation amongst tuberculin negatives and positives both before and after the tuberculin test was done. They also note that tuberculin negatives usually developed hæmagglutinins after B.C.G. vaccination, not in a way correlated with the developing of a positive tuberculin test. Kirby *et al.*⁶ using the techniques of both Rothbard *et al.*, and Smith and Scott on the same sera got identical readings. They could not duplicate the impressive findings of Rothbard, but rather were in fair agreement with Smith and Scott. They found hæmagglutinins in 50% of 251 patients with non-tuberculous disease and in 10% the reactions were 1:8 or higher; while in 54 cases of proved tuberculosis of various sites only 57% gave a titre of 1:8 or higher. They considered the test of no practical diagnostic value.

Adcock *et al.*⁷ felt that the test as presently done was of doubtful value. They found significant positive reactions in 17.1% of normal subjects and in only 54.5% of patients with active tuberculosis. Hinsén *et al.*⁸ discussed several points. They feel a fall of titre during streptomycin therapy may be due presumably to suppression of antigen production. They show a

linear progression of percentage of significant positives as the disease state advances. However, they found that only 63% of 130 cases of known active tuberculosis gave a titre of 1:8 or higher and in 64 controls 5% gave a significant positive. They note that at over 40 years of age, the test becomes even more unreliable. They found no correlation between the test and duration or progress of disease and conclude that the test, as it exists, has no diagnostic or prognostic value. Hilsen and Elek⁹ using Group "O" Rh negative cells sensitized with a crude polysaccharide fraction and the Chown capillary tube technique were able to show 92% positive 1:2 in known tuberculosis cases and 33.3% in non-tuberculosis controls. They do not express a clinical opinion.

From the above one gathers there is difference of opinion with a few workers getting impressive results in favour of the reaction, but most workers finding results that would show the test to be of doubtful value. Variation in technique may account for this, but we do not think this likely.

In the mind of the clinician the test has only two values. Firstly, is it of any assistance in the diagnosis of tuberculosis? and secondly, has it any value in following the course of the disease? The significance of the first question is obvious. By the second, one means, will it indicate improvement or unfavourable progress or spread; will it aid in the early detection of reactivation, and further will it show the disease to be inactive or apparently cured? This investigation has been directed toward a further evaluation of the practicability and value of the hæmagglutination reaction.

MATERIALS AND METHODS

In this investigation Rothbard's method was mainly used with the exception of the absorption procedure described below and the using of buffered saline. Buffered saline (0.01 mol. anhydrous sodium dibasic-phosphate in 0.8% NaCl solution with pH adjusted to 7.0 with 1.N hydrochloric acid) was used to wash cells and for all dilutions.

Defibrinated sheep blood diluted with 1.2 volumes of a modification of Alsever's solution was kept for 48 hours before use and stored for use up to a month at 4° C. The cells were washed three times with 6 volumes of buffered saline and the packed cells were used within 24 hours. To 10 ml. of 1:12 dilution of Lederle's 4X standard strength old tuberculin, in buffered saline adjusted to pH 7.0, 0.5 ml. of washed packed cells was added and the mixture was shaken thoroughly every 15 minutes during two hours' incubation at 37° C. After incubation the sensitized cells were washed three times with 30 ml. of buffered saline. It was preferable to use a 1,000 r.p.m. speed for centrifugation to avoid hard packing of the sensitized cells which made them difficult to resuspend without hæmolyzing some of them. The cells were finally resuspended in buffered saline to give a 0.5% suspension, which was used as antigen in the

hæmagglutination test. It may be stored at 4° C. for at the most three days. However, we preferred to use a freshly prepared antigen suspension for each series of tests.

A 0.5% suspension of washed normal sheep cells was used in the hæmagglutination test as control for incomplete absorption of unrelated antibodies.

Patient's serum was stored at 4° C. for a short time or lyophilized for longer preservation. To 1 ml. of serum 1 ml. of buffered saline was added and the mixture inactivated at 56° C. for 30 minutes, then 0.2 ml. of washed, packed untreated sheep cells was added and the suspension incubated in a water bath at 37° C. for 10 minutes, then left for 20 minutes at room temperature and frequently shaken during this time. The mixture was finally centrifuged for fifteen minutes at 2,000 r.p.m. and the supernatant used in the hæmagglutination test as absorbed serum.

PERFORMANCE OF THE HÆMAGGLUTINATION TEST

Serial halving dilutions were made in a volume of 0.4 ml. in 1.2 cm. diameter tubes from 1:2 to 1:512. To each tube 0.4 ml. of antigen (tuberculin sensitized sheep red cells) was added. Two controls are necessary for each test: (1) To serve as a control for spontaneous clumping of the antigen: 0.4 ml. of antigen was added to 0.4 ml. of buffered saline. (2) To serve as a control for incomplete absorption of unrelated antibodies: 0.4 ml. of absorbed serum in a dilution 1:2 was added to 0.4 ml. of 0.5% untreated red blood cell suspension.

For each test or group of tests controls of known positive and known negative serum were included.

The tubes were incubated in a water bath at 37° C. for two hours with frequent shaking, then left overnight at room temperature to be read the following morning. All tests were read by naked eye with gentle tapping of the tubes. In positive tests the cells were clumped in compact masses and in negative tests they were easily resuspended.

RESULTS WITH HUMAN SERA

The hæmagglutination reaction was put to as broad a clinical test as possible in children and adults, in all phases and types of tuberculosis through the co-operation of clinicians in the Alexandra Hospital, Grace Dart Hospital, Royal Edward Laurentian Hospital and Royal Victoria Hospital in Montreal.

Table I depicts the results of the hæmagglutination reaction in various stages and types of tuberculosis. Normal sera as well as sera from other disease conditions are included as controls. The majority of the control sera gave negative reactions or showed hæmagglutination in serum dilutions of 1:2 to 1:4; 11% showed a titre of 1:8 or above. It is, however, not known whether any of the patients in the latter group, or in the whole control group, had had tuberculosis but it appears reasonable to assume that at least a certain percentage had had contact with *M. tuberculosis* at some time. This indicates that the significant titre in the hæmagglutination reaction is 1:8 or above, which has been suggested by previous investigators.

The sera from 227 cases of active tuberculosis of various types were studied from time to time over a long period. Striking variations in titre were observed in the same patient and these fluctuations in hæmagglutination titre could not be correlated conclusively with any definite clinical changes. Even lobectomy, thoracoplasty, pneumothorax or pneumoperitoneum did not cause, as such, a very great fall or rise in the titre. No definite relationship between the hæmagglutination titre and the toxicity of the disease could be established. As all patients received streptomycin and para-amino-salicylic acid at some stage of treatment, it might be supposed to have some effect upon the antibodies in the sera, but the case histories and charts of

of cases accepted as inactive for more than four years showed a significantly positive titre.

In Table II, the controls, all cases of active pulmonary tuberculosis and non-pulmonary tuberculosis (exclusive of tuberculous meningitis) are grouped together to demonstrate the percentage accuracy of the hæmagglutination reaction diagnostically in already proved cases of tuberculosis. If all these cases of active tuberculosis are grouped together 69.6% give a positive reaction of 1:8 or higher. When the cases of meningitis are included the percentage of significant positive reactions in active cases of tuberculosis rises to only 71.6%.

Of the 176 cases of pulmonary tuberculosis (minimal, moderately advanced and far ad-

TABLE I.

Reacting dilution	Neg.	1:2	1:4	1:8	1:16	1:32	1:64	1:128	Total	% 1:8 or over
Normals and non T.B. cases . .	20	10	10	2	2		1		45	11.1
T.B. 4 years inactive	1	2	6	2	3				14	35.7
Pul. T.B. I	1	2	4	4	5	3	1		20	65.0
Pul. T.B. II	5	4	18	23	30	13	3	2	98	72.4
Pul. T.B. III	4	2	2	16	15	12	6	1	58	86.2
Miliary	1				1				2	50.0
Tuberculoma (lung)			1						1	0.0
Adenitis		1	1	2			1		5	40.0
Meningitis		1	1	2	12	2	3	2	23	91.3
Bone and joint	4	7	7	8	2	2	2		32	43.8
G.U.	1		1		2				4	50.0
Total	37	29	52	58	72	32	17	5	302	

The figures show the number of patients of each class with a positive blood serum reaction at the given dilution.

10 detailed cases do not confirm this. The hæmagglutination titre varied widely in cases of active tuberculosis, with the possible exceptions of far advanced pulmonary disease and meningitis in which the percentages of significant positive titres were 86.2% and 91.3%. In all other cases of tuberculosis tested, the percentage giving a significant hæmagglutination titre was not sufficiently high to be of diagnostic value and this is particularly so in non-pulmonary disease, other than meningitis. Only 43.8% of a series of 32 cases of bone and joint tuberculosis showed a titre of 1:8 or higher. Similar unsatisfactory results were obtained in cases of tuberculous adenitis, genitourinary and miliary tuberculosis though the numbers of cases of these are too small to justify any conclusions.

There was no strict parallelism between the activity of the disease and the hæmagglutination titre observed. Even if clinical and bacteriological cure was achieved, the patients very often showed high hæmagglutination titres and 35.7%

TABLE II.

Cases	Below 1:8	1:8 and above	Totals	% above 1:8
Controls	40	5	45	11.1
Pulmonary tuberculosis	44	135	179	75.4
Non-pulmonary tuberculosis excluding meningitis	23	18	41	43.9
All above active tuberculosis	67	153	220	69.6

The figures summarize the totals of positive and negative reacting patients of the stated classes.

vanced) 16 were selected for an intense and careful study with regard to clinical findings, progress, cultural examinations, treatment and the results of the hæmagglutination reaction. In these 16 patients active tuberculosis had been diagnosed clinically and eventually bacteriologically. In two cases the hæmagglutination reaction proved to have diagnostic value, in that it was significantly positive before the cultures became positive. One case failed to give a posi-

tive hæmagglutination reaction, although the sputum culture was positive. The sera of the remaining 13 patients showed positive reactions, but there was no correlation between the hæmagglutination titre and the clinical activity of the disease. In the beginning of this investigation it seemed that in two cases at least the hæmagglutination test might provide an indication of clinical and cultural findings but in the follow-up study fluctuations of the titre occurred without any reason and spoiled this impression. Ten of the above mentioned cases were followed long enough to warrant the information being put in graphic form in an attempt to demonstrate a correlation, if any, between the hæmagglutination reaction and the course of the disease. Two of these detailed case records are given as samples. The clinical course of the disease can be followed by the solid line between X's and the hæmagglutination reaction titre by the dotted lines and solid dots. The "O" level at the right side indicates the state of disease in each case at the start of the program, above this level is unfavourable and below favourable progress of the disease in units of 1 to 4. The hæmagglutination titre can be read on the left side and the month and year along the bottom line.

TUBERCULOUS MENINGITIS

A group of 23 patients with tuberculous meningitis has been systematically investigated and a strikingly high percentage (91.3%) of significantly positive hæmagglutination reaction with blood serum was obtained. *M. tuberculosis* had been isolated from the spinal fluid in 19 patients before the present study was started but was not isolated again during the study period. Two patients had repeated positive spinal fluid cultures as well as positive blood serum hæmagglutination tests. With clinical improvement of the disease the cultures of the spinal fluid became negative but the blood serum hæmagglutination reaction remained significantly positive. The remaining two patients of the group of 23 failed to show blood serum positive hæmagglutination titres, however the bacteriological findings were also negative. All these patients were receiving treatment with streptomycin, para-amino-salicylic acid and P.P.D. The blood serum hæmagglutination reactions remained significantly positive even

when the patients were considered clinically well enough to leave the hospital.

On all the tuberculous meningitis patients the hæmagglutination reaction was carried out on the spinal fluid as well as the blood serum. It was found that the spinal fluid gave either negative results or a positive in the very low titres (1:2-1:4) only. Only when the spinal fluid contained small amounts of blood or was xanthochromic was the hæmagglutination titre elevated indicating that serum antibody had been carried over into the spinal fluid.

Chart 1 represents a typical example of the results of the hæmagglutination titres in a case of tuberculous meningitis under observation from October, 1950 until January, 1952. A positive culture from the spinal fluid was obtained prior to October, 1950. From April, 1951 a steady clinical improvement was observed but the hæmagglutination titre showed little significant or consistent change or fall.

CONCLUSIONS

It is reasonably apparent that the hæmagglutination reaction in its present state and as performed by us does not have reliable diagnostic value with the possible exception of its use in suspected cases of tuberculous meningitis. Hæmagglutination antibodies are present in the sera of patients suffering from tuberculosis but by no means regularly nor of constant significant titre. Bacteriologically proved cases of tuberculosis showed significantly positive reaction in from 50 to 86.2% depending on the form of the disease. If one leaves out the cases of tuberculous meningitis, which are in a class by themselves, and if all the others had been tested blind without any knowledge of diagnosis, 116 would have shown a titre of hæmagglutination below the significant level of 1:8 and of these 67 or 57.7% had active tuberculosis. This is an intolerable level of error. However the control series is small and therefore this figure would seem to be weighted against the test. The percentage findings as outlined in Table II are evidence against the diagnostic accuracy of the test.

In miliary, bone and joint, glandular and genitourinary tuberculosis only 40 to 50% of the tests were positive and the titres were much lower than in pulmonary tuberculosis and the test has shown itself of no value.

In the cases of tuberculous meningitis positive results were obtained in 91.3% of cases and the

test may render valuable information for the clinician as the diagnosis is often hard to establish and bacteriological proof time consuming.

We believe that the hæmagglutination reaction is not to be trusted as an exclusion test

titre levels in any case. There does not seem to be reliable correlation between the titre level and favourable or unfavourable progress of the disease. Several cases of pulmonary disease showed a rise in titre in the face of an apparently stationary clinical state, which had not changed

Tb. meningitis.

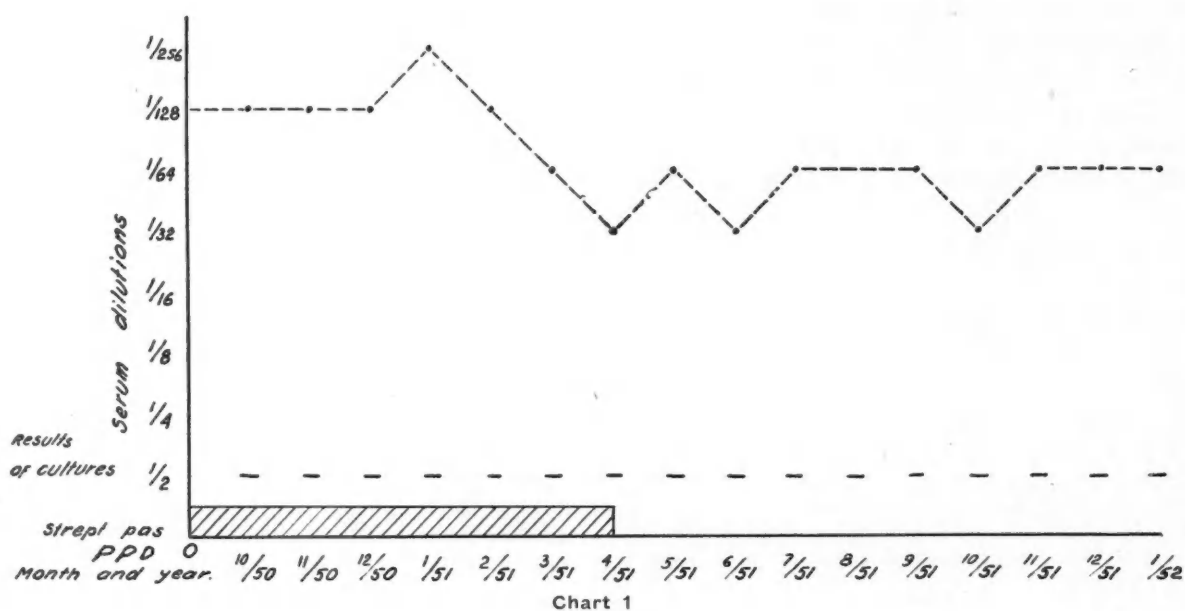


Chart 1

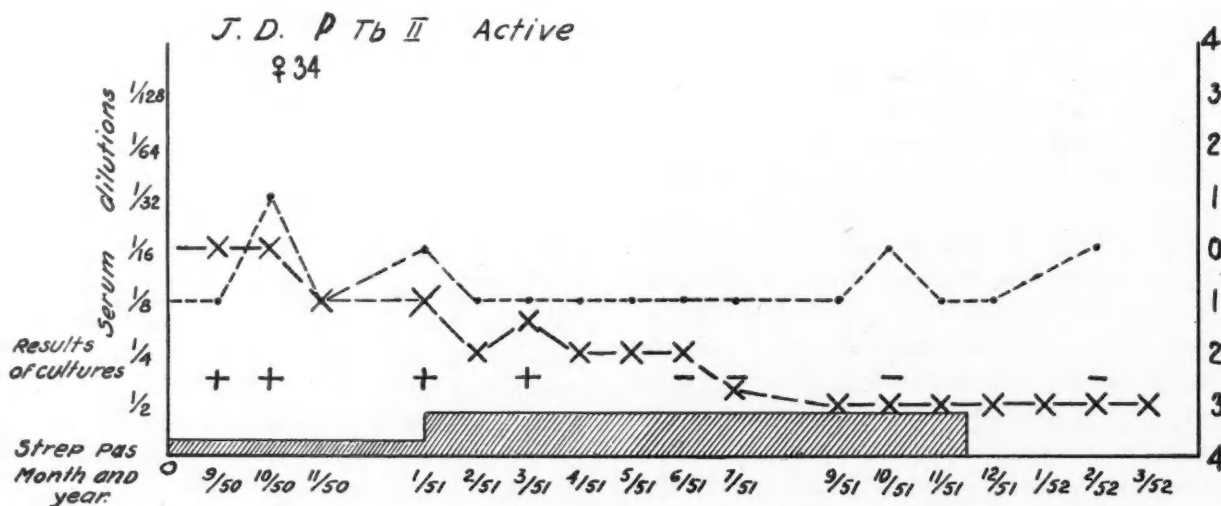


Chart 2.

for tuberculosis on the basis of an agglutination titre below 1:8. However if positive in high dilution i.e., 1:16 or higher it should be viewed as a strong indication of the presence of active tuberculosis.

Major surgical procedures and the use of streptomycin exerted little or no effect on the

for 6 months. So far we have been unable to show that the hæmagglutination reaction helps in following the clinical course of the disease. One point seems to hold and that is that in cases of long-standing active disease, in which the patients have reached a good balance with their disease (and in which there is probably constant

antigen production of even small amount) there is a constant high titre of hæmagglutination.

Although our findings are discouraging the limited number of experiments does not allow us to formulate final conclusions on the value of the hæmagglutination reaction in the diagnosis and progress of tuberculosis. The present technique requires improvement, as variations in the serological activity of different batches of antigen suspension make it difficult to correlate even the results carried out at different times on the serum of a particular patient. The frequency of borderline titres makes the interpretation of the reaction difficult and uncertain.

CASE 1. Chart 2 J.D., 34, Pul. TBii.

As a young woman this patient had a small "spot" on lung. Said to have "break" in 1946, sputum not done but given pneumo. San care for 5 months and off work for

calcified disease with small exudative element. Positive gastric. Negative fro June, 1948 to December, 1948. No x-ray change. Modified home cure difficult to control. Periodically positive through 1949. PAS started March, 1950 to September, 1950 (6 months). Remained positive on and off. No clinical or x-ray change, small persistent cavity. Started streptomycin 1 gm. twice a week and again on PAS 20 gm. daily from April 3, 1951 until July 20, 1951. Cavity enlarged suddenly with exudative spread and small area of contralateral spread. Positive. Admitted for thoraco. Streptomycin and PAS continued. Contralateral spread subsided and became static. Seven-rib thoracoplasty completed by October 4, 1951. Negative from 6 weeks after operation on all tests. Continues inactive and is now working full time.

Early in the case and at the point where the cavity first appeared (+ ve) and the sputum turned positive there seemed to be some correlation but from then on none. At no time was he really ill but was in good balance with his disease.

SUMMARY

1. The literature on the hæmagglutination reaction in tuberculosis has been reviewed.

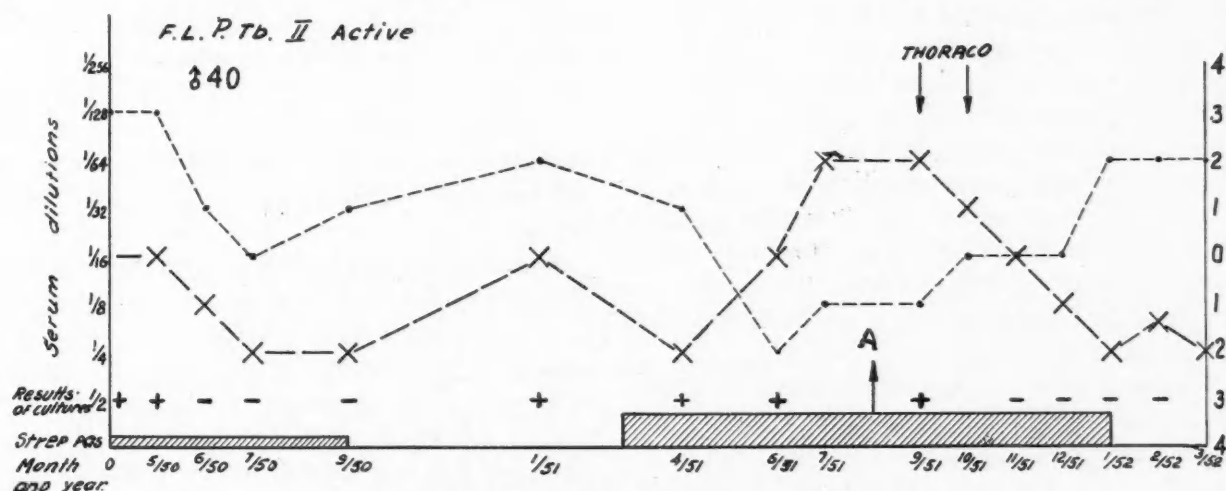


Chart 3.—A—Admitted. Thoraco—thoracoplasty.

1 year. Working from fall of 1947 to final reactivation. Visceral pleuritis developed so pneumothorax was abandoned in February, 1950. Remained negative. Did well but worked very hard and had unusual emotional strain through Spring, 1950. Felt ill for a brief time in June, 1950. Symptoms again in September, 1950 and showed clinical and x-ray evidence of spread. Toxic. Positive. Admitted September 28, 1950. TBii. Started on PAS before admission. Continued and streptomycin added in January, 1951 1 gm. every 3 days until November, 1951. Toxæmia subsided on bed rest, lesion cleared by x-ray and x-ray became static in or about May, 1951. Sputum, gastrics and bronchials negative on all exams from June, 1951. Remained on partial bed rest at home for 6 months. Doing well. Now inactive and working part time.

Here the continued relatively high titre in a case that has shown steady improvement and has been negative for almost a year seems unreasonable and contradictory.

CASE 2. Chart 3 F.L., 40, Pul. TBii.

Known to have had minimal disease in 1930. Scar in apex in 1944. Seen in May, 1948. Old fibrotic and

2. The techniques used in these experiments have been described.

3. The clinical relationship and findings have been outlined and discussed. The reaction has doubtful diagnostic value and we cannot demonstrate a constant correlation between the hæmagglutination titre and the clinical course.

4. Brief case records and graphic outlines of clinical course and hæmagglutination titre have been presented.

Generous supplies of four times standard strength O.T. Lederle were received through the kindness of Dr. H. D. Piersma. The Weybridge P.P.D. was obtained through the kindness of Dr. A. W. Stableforth. Serums and cerebrospinal fluid was obtained in some cases by the co-operation of the Alexandra Hospital and the Royal Edward Hospital, the Grace Dart Hospital and the Royal Victoria Hospital.

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PORPHYRIA IN SURGERY*

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CERTAIN SURGICAL DIAGNOSIS depends often on a knowledge of medical ailments which simulate surgical disease. To such a company of ailments belongs acute intermittent porphyria. Porphyria has been a medical curiosity for some forty years, but only recently has it aroused any surgical interest. Amongst others, Calvy has stressed its endless capacity to mimic other conditions.

The purpose of this paper is to report the occurrence of acute intermittent porphyria in three cases encountered in surgical wards during a single year. It is further suggested that its frequency is much higher than previously suspected. Finally, one is reminded that a simple and reliable laboratory test is available for the purpose of diagnosis.

Porphyria is an inborn error of blood pigment metabolism. There are three clinical forms of the disease. (1) Light sensitive or congenital porphyria is a rare form which is predominantly male in distribution, and is inherited as a Mendelian recessive. It appears early and is often associated with a hæmolytic jaundice. Its main feature is extreme light sensitivity with blistering and scar formation of exposed skin. (2) Acute intermittent porphyria is discussed in this paper. It is evidently inherited as a Mendelian dominant, and appears in the third or fourth decade. Unlike light sensitive porphyria, it is predominantly female in distribution. (3) A mixed form of porphyria, with combined features of the other forms has been described.

Biochemical basis.—The porphyrins are constituents and break-down products of such enzymes as myoglobin, hæmoglobin and chlorophyll. All of these pigments are concerned with

cellular respiration. Under normal conditions certain porphyrin compounds are formed during hæmoglobin synthesis, and are constantly excreted in small amounts. In porphyria, however, there is some interruption in the cycle of hæmoglobin synthesis or break-down. The result is an accumulation, and excretion in the urine of abnormal porphyrins.

The kinds and amounts of porphyrins excreted in the three clinical forms of porphyria are different. In acute intermittent porphyria, porphobilinogen is excreted in large amounts during an acute attack, and intermittently during the latent phases. Porphobilinogen is a stable compound in alkaline urine, but forms, in acid urine under the influence of sunlight, a typically red-brown porphyrin.

The mode of production of symptoms in porphyria is conjectural. Abdominal symptoms may be due to the effect of porphyrins on either the smooth muscle or the autonomic nerve supply of bowel. There is experimental evidence supporting the latter view. The neurological symptoms are due presumably to the direct effect of porphyrins on nerve cells. The cardiovascular symptoms seem to be due to vaso-spasm.

Diagnosis.—Nesbitt and Calvy have both emphasized the place of porphyria in the differential diagnosis of a legion of other conditions. Porphyria may mimic any acute intra-abdominal disease. It may be a cause of paroxysmal hypertension, and it may simulate hyperthyroidism. An acute episode may initiate itself with a peripheral neuritis or myelitis. At the onset or during the course of an attack, there may be a neuropsychiatric upset varying from a mild personality disturbance to an acute psychosis. Skin pigmentation is not rare.

The acute episodes are only occurrences in a chronic disease. It follows, therefore, that a number of exciting factors have been isolated and are of importance both in diagnosis and in treatment. Alcoholic indulgence is a detail of history

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often obtained. Other precipitating causes of an acute attack are barbiturates, sulfonamides, morphine, and physical and mental trauma.

Diagnosis depends on examination of the urine in two fashions.

1. A striking phenomenon can often be observed if a tube of the patient's urine with a few drops of acid added is taped to a window in sunlight. There is a change of colour of the urine from yellow to a shade that varies from pink to port wine. Often the patient will void urine which is already of this colour.

2. The specific test mentioned is the Watson-Schwartz reaction, which is a simple variant of the Ehrlich's reaction. It is based on the fact that porphobilinogen, like urobilinogen, gives a strong Ehrlich's reaction. It is not, like urobilinogen, extracted by chloroform.

The Watson-Schwartz Reaction.—(1) 2 c.c. each of urine and Ehrlich's reagent are mixed in a test tube.

- (2) 4 c.c. of a saturated solution of sodium acetate is added to the above mixture.

- (3) 2 c.c. of chloroform is then added, and the tube is shaken.

- (4) The persistence of a rich Burgundy tint in the supernatant aqueous fraction is indicative of a positive reaction for porphobilinogen.

Porphyria has been observed without symptoms in patients with other diseases (miliary tuberculosis, kidney disease, fungus and bacterial infections) as a coincidental finding. However, in the absence of these factors, and in the presence of appropriate symptoms and signs, the test is regarded as being absolutely diagnostic of porphyria.

Finally there are certain urinary antiseptics (for instance, pyridium) which may give a false positive result to an unwary technician.

CASE 1

This was a white male who was 49 years of age at the time of death in hospital on November 23, 1950. He had been admitted to both the medical and the surgical services on nine different occasions between September 20, 1942 and October 3, 1950. In the intervals he attended the out-patient clinic.

On all occasions he complained of sharp, steady, abdominal pain with vomiting, and gave a history of alcohol consumption before each attack. The attacks were always acute and episodic in nature, sometimes being chiefly epigastric, and sometimes lower abdominal with maximal severity in the left lower quadrant. Although the pain was steady, there were frequent crampy paroxysms. He had complained of such attacks as long as twenty years before his final illness, and during one of these, his appendix was removed.

The patient's personal history revealed a poor work record. Also, he had been divorced once and had re-

married. His wife supported him during most of the nine years before death.

During every admission some comment was made with regard to the exaggerated reaction the patient showed on abdominal palpation, and there was frequent mention of his extreme emotional imbalance. At all times he had a coarse tremor, although there was never any demonstrable neurological lesion.

There were frequent barium examinations of the gastro-intestinal tract during these years. The only recorded finding was a general marked hypertonicity of the bowel.

On each of the last two admissions to hospital the patient noted that his urine had been dark for an unknown period before admission. On the second occasion, an alert admitting officer tested his urine for porphobilinogen and found it strongly positive.

Further investigation demonstrated a marked impairment of liver function. He died after a hospital stay of one and a half months. Autopsy revealed portal cirrhosis with massive ascites.

One might question whether this man's porphyria was a part of the liver disease. However, the period of illness during which he was supervised extended over eight years, during which time he showed no evidence of impaired liver function. The conclusion is that the initial metabolic upset was acute intermittent porphyria, and that the liver disease was secondary to his poor nutrition, to his high alcoholic intake, and perhaps to the toxic effect of abnormal porphyrins.

CASE 2

This was a twenty-five year old, emotionally disturbed, married woman who was first admitted to hospital on February 7, 1951. She had first noticed the passage of red urine two years before her present illness, just after birth of her last child. She had since that time had occasional crampy abdominal pain which she thought was menstrual in origin. She remained in reasonable health until seven months before admission.

At that time she suffered an episode of agonizing abdominal pain with vomiting. A laparotomy was performed elsewhere, with a preoperative diagnosis of appendicitis. A normal appendix was removed, and a uterine suspension was carried out. After operation she showed signs of mental disturbance, and recalled having paralysis of both arms. She received treatment in a mental institution during this period.

One month before admission she developed generalized abdominal pain with vomiting, chiefly after meals, and was referred to hospital with a diagnosis of sub-acute small bowel obstruction.

At the time of admission she was an emaciated young woman complaining bitterly of abdominal pain. She had a soft tumour in the region of the proximal duodenum. Her urine was strongly positive for porphyrins. Neurological examination revealed no gross defect at this time.

There was, upon barium examination, almost complete obstruction of the third part of the duodenum, with marked dilatation of the duodenum proximal to that level. Because of continued vomiting and evidence of duodenal obstruction, it was finally believed that she required operative interference. At operation the first, second and third parts of the duodenum were thick-walled and dilated, while the bowel distal to the superior mesenteric vessels was collapsed. Obstructive symptoms disappeared after operation.

Eleven days after operation the patient developed bilateral wrist drop with rapid progression to complete paralysis of arms and legs, and partial paralysis of the chest muscles, throat, eyelids and face. She also became mentally disturbed. After a lengthy period of physiotherapy, she was discharged seven months from the time of admission. Her peripheral neuritis and mental state had both improved considerably.

She was re-admitted two months later because of recurrence of abdominal pain, for which investigation revealed no surgical basis. Despite bed rest and appropriate sedation, she again became disturbed, this time with frank hallucinosis. After three suicidal attempts she was transferred to a mental institution. She died there some six weeks afterward.

This patient epitomizes the full-blown history of acute intermittent porphyria, a chronic illness featured by psychotic, gastro-intestinal and neurological symptoms, proceeding to inevitable death.

In retrospect, it seems certain that she suffered an organic duodenal obstruction which required operation. It seems just as certain that the operative trauma provoked or contributed to a fulminating episode of neurological involvement.

CASE 3

This was a forty-four year old woman who was admitted to hospital on July 13, 1951, as an "acute abdomen" with a two day history of generalized crampy abdominal pain, nausea, and vomiting. Further inquiry revealed that she had had a gynaecological procedure with reference to such pain in her lower abdomen at twenty-six years of age. She had had a haemorrhoidectomy at forty-two years, her complaints at that time being pain on defaecation apparently related to sphincter spasm.

Her personal history contributed the fact that she had been married and divorced, and had since entered a common-law relationship. She did not get along with her common-law husband, and drank to excess. Her drinking bouts were related to attacks of abdominal pain.

On admission examination, she was a middle-aged woman presenting a dark, icteroid pigmentation above the collar bone and on the backs of the hands. Her only exposure to sunlight was while hanging out clothes once a week. She was writhing with pain, although her abdomen was soft with no specific points of tenderness. Her mental state was revealed by her extreme restlessness and her exaggerated response to abdominal palpation.

Because she presented no sure evidence of organic abdominal disease and because her total picture fitted that of porphyria, her urine was tested for porphobilinogen. It was very strongly positive.

Two days after admission she became wildly manic and hallucinated. She recovered slowly with almost no treatment excepting parenteral fluids and appropriate sedation. She was discharged without symptoms fifteen days after admission. She was admitted for a short time on two other occasions, once after an attempt at suicide, and again in an acute manic state. When last heard from, she was an inmate of a mental hospital.

As in the previous two cases, this patient had sustained operations which quite possibly were related to symptoms arising from porphyria. Again, the lesson is clear. Porphyria can simulate any intra-abdominal surgical disease.

DISCUSSION AND CONCLUSIONS

No one would suggest that individuals suffering from porphyria could not have other organic disease. However, as seems evident from the three cases presented and those in the literature, the likelihood that porphyria is the basis of all symptoms is overwhelming.

Accordingly, a high index of suspicion is warranted under certain circumstances. The typical patient with porphyria is a woman of early middle age. She presents with a symptom-complex of acute abdominal or neurological disease, often without signs or laboratory and x-ray evidence to support an organic basis.

A family and personal history of discord and mental upset is still more suggestive. Psychotic behaviour with hallucinosis is commonly seen. Finally, a history of having passed dark or port wine urine, and the finding of apparent urobilinogen on routine urinalysis makes provisional diagnosis possible. The specific test for porphobilinogen is then mandatory.

In conclusion, the extreme probability of fulmination of the acute episode following an operation must at all times be remembered.

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Until a suitable chemical test can be developed, the greatest hope for early diagnosis in cancer of the lung lies in mass survey studies by roentgenology. This is a relatively cheap and effective means of detecting cancer suspects. One in every 10,000 so studied has harboured a silent lung cancer. Where surgical therapy was sought without delay almost 100% of these lesions have proved resectable and approximately 70% have been found localized with good prospects of cure at the time of resection. Too often, however, such lesions have been shrugged off or the patient told to return in six weeks for another roentgenogram. Such a policy has no justification. If cancer is suspected on the original film, even though histologic proof by bronchoscopy or bronchial secretions is lacking, exploration is indicated. —Editorial: *Va. Med. Monthly*, 80: 346, 1953.

PHENYLINDANEDIONE: A USEFUL ANTICOAGULANT*

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THERE IS A VOLUMINOUS LITERATURE concerning the value of anticoagulants in the prophylaxis and treatment of thrombosis and thromboembolism. At the present time two drugs, dicoumarol and ethyl biscoumacetate ("tromexan") each of which reduces prothrombin activity, are in common use as anticoagulants. Their advantages and disadvantages are well known.¹ Clearly, each is far from being an ideal anticoagulant. Dicoumarol takes up to 72 hours to exert its maximum effect, its action is cumulative and persists 3 days or more after the last dose. The initial action of ethyl biscoumacetate is prompt and its effects subside quickly when the drug is withdrawn. However, the daily dose fluctuates widely and this makes control difficult.

The search for better anticoagulants continues and in recent years phenylindanedione (PID) has received increasing attention.^{2 to 8} This substance differs in its chemical structure from dicoumarol and ethyl biscoumacetate and exerts a prothrombopenic action roughly intermediate in rapidity between the other two.

During the past three years, we have used PID in the treatment of 115 patients. Our experience indicates that it is an effective anticoagulant with certain advantages over dicoumarol and ethyl biscoumacetate for clinical use.

Clinical material.—PID was given to 115 patients for prophylaxis or treatment of thromboembolic disease; 59 of these suffered from myocardial infarction, 46 from thrombophlebitis, 5 from congestive heart failure, 2 from central retinal vein thrombosis and 3 from embolism associated with auricular fibrillation. There were 81 men and 34 women in this group and their ages ranged from 34 to 77.

Methods.—Prothrombin times were determined daily on whole plasma by Quick's⁹ one-stage method using thromboplastin prepared in our own laboratory from acetone-dried fresh rabbit

brain. Control prothrombin times in normal individuals range from 15 to 22 seconds, but control times repeated in any one individual are constant within 1 second.

Dosage.—The effective therapeutic range of the prothrombin time is two to three times the normal control time (30 to 45 seconds). We tried to achieve this range as quickly as possible and to maintain the prothrombin times within these limits. The drug was always given by mouth. No rigid dosage schedule was adopted. Our studies with PID in normal individuals indicated that single doses of 150 mgm. seldom produce a significant prolongation of the prothrombin time (Fig. 1). However, when patients with thrombo-

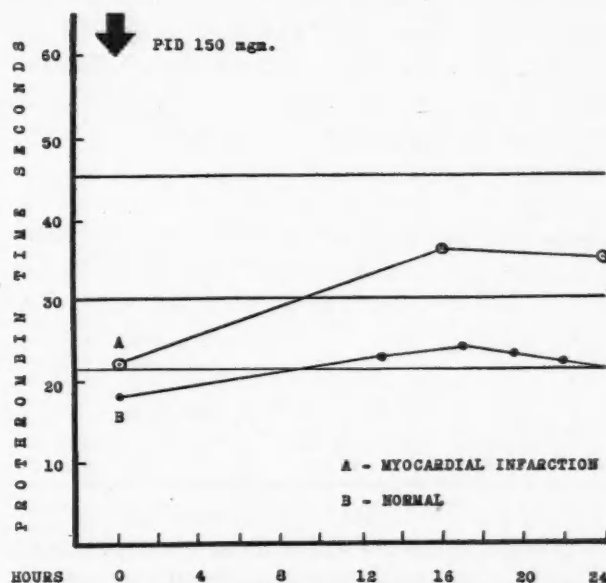


Fig. 1.—Effect of single doses of 150 mgm. of PID on prothrombin times in a patient with myocardial infarction and in a normal individual.

embolic disease were given single doses of 150 mgm. the prothrombin time usually reached a therapeutic level within 24 hours (Fig. 1). Consequently an initial dose of 150 mgm. was prescribed for all the patients in this group. This was followed by a daily dose of 25 to 150 mgm. depending on whether the prothrombin time was below, within, or in excess of the therapeutic range.

RESULTS

The prothrombin time was prolonged to a therapeutic level within 24 hours in 82 of our patients. Fourteen were less sensitive to the drug. The prothrombin times in 11 of these reached the therapeutic range in 48 hours. In 2 others a therapeutic level was obtained after 72

*From The Montreal General Hospital University Clinic. This work was done with the aid of a grant from the Faculty of Medicine, McGill University, Montreal. Supplies of Phenylindanedione (Danilone) were generously supplied for this study by Messrs. Chas. B. Frost & Co., Montreal.

hours and in 1 case after 96 hours. In 19 patients the prothrombin times exceeded the therapeutic range within 24 hours. Hæmorrhage did not occur in any of these cases although microscopic hæmaturia was observed in a few of them. Prothrombin times prolonged in moderate excess of the desired range fell to safe levels within 24 hours when the drug was withheld. Vitamin K₁ rapidly corrected dangerously severe prothrombin deficiency in the few cases encountered.

The daily maintenance dose varied from case to case. In most individual cases, however, the dosage schedule was established in a few days and remained constant within reasonable limits (Table I).

In general, acutely ill patients, especially those with myocardial infarction and shock, needed the smallest maintenance doses. In some of these individuals, larger doses were required as their clinical condition improved.

TABLE I.

No. of cases	Daily maintenance dose of PID (mgm.)
17	25 - 50
35	50 - 75
41	75 - 100
22	100 - 150
115	25 - 150

There was no clinical evidence of thrombosis, embolism or hæmorrhage in any of our patients during PID therapy. There were 7 deaths during treatment with this drug. All occurred in patients with myocardial infarction. The diagnosis was confirmed at autopsy in each case. There was no evidence of hæmorrhage in any of them and in 6 there were no thromboembolic complications. The remaining patient had suffered 2 previous episodes of myocardial infarction and was admitted with a more recent infarction complicated by pulmonary embolism. At autopsy there was a large thrombus in the right ventricle and infarcts in the right lung. In addition, thromboses were found in both femoral veins and in a small cerebral artery. It seemed clear that these thromboembolic episodes had antedated the institution of PID therapy.

Toxic manifestations.—Hæmorrhage did not occur in any of our patients although microscopic hæmaturia was observed in a few of them. In most cases the urine assumed a strange pink-

orange tint which seemed to be of no significance. Isolated episodes of vomiting occurred in a few patients following the initial dose of PID or early in the course of treatment. The drug was subsequently well tolerated in all these cases. None of the patients complained of thirst, dry mouth or itching of the skin.

One patient developed stomatitis and was found to have granulocytopenia. PID was withheld and she recovered promptly. She was not given any more of the drug. A fortuitous association of granulocytopenia with the exhibition of PID cannot be excluded in this case. Nevertheless the possibility that leukopenia may sometimes result from use of this drug must be borne in mind.

SUMMARY AND CONCLUSIONS

PID was used as an anticoagulant in the treatment of 115 patients, the majority of whom were suffering from myocardial infarction or venous thrombosis.

An initial oral dose of 150 mgm. was followed by a daily dose of 50 to 100 mgm. in most of these cases. The prothrombin time usually reached therapeutic levels within 24 hours. Some patients were more resistant and therapeutic levels were not achieved for 48 to 72 hours. The anticoagulant effect decreased within 24 hours following withdrawal of the drug, but 72 hours usually elapsed before the prothrombin times returned to normal. In a few cases these doses resulted in a dangerous prolongation of the prothrombin time. Administration of vitamin K₁ resulted in prompt correction of the prothrombin deficiency in these circumstances.

There was no clinical evidence of embolism or extension of thrombosis during PID therapy in any of our patients. No hæmorrhages occurred although microscopic hæmaturia was observed in a few cases. In most patients the urine assumed a strange pink-orange tint which seemed to be of no significance. Granulocytopenia occurred in one patient and may have been caused by the drug.

It is clear that PID is an effective anticoagulant. The initial action is prompt and prothrombopenic effects subside rapidly when the drug is withdrawn. The daily maintenance dose does not fluctuate widely and this greatly facilitates maintenance of prothrombin time within the therapeutic range.

Our experience indicates that PID is a useful anticoagulant with some advantages over dicoumarol and ethyl biscoumacetate for clinical use.

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PNEUMOTHORAX— PNEUMOPERITONEUM?

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FOR MANY YEARS pneumothorax has been the dominant method of collapse therapy, and usually the first to be tried. In the past five years or so pneumoperitoneum has been increasingly and extensively used in cases which formerly would have been treated by pneumothorax. We are all concerned to know whether this trend is justified. Each of us must develop an opinion and a policy on this matter. In this paper I present data derived from the literature and from a survey of cases treated for the Department of Veterans' Affairs in various Ontario sanatoria. I believe these facts will help in developing opinion as to the relative positions of pneumothorax and pneumoperitoneum.

The material from the literature includes all the data in a survey of as many articles as I could cover in the time at my disposal, provided only that the information was presented in such a way that it could be discussed under the headings I have chosen to use. There has been no selection to prove a point.

The D.V.A. series consisted of all cases in which pneumothorax was attempted, induced, or in use in D.V.A. cases in several Ontario sanatoria in the years 1945 to 1948 inclusive. Nearly all were men, and nearly all were between the ages of 20 and 40. The total number of cases studied was 275. Of these the extent of disease was minimal in 21%, moderately advanced in 51%, and advanced in 28% at the time pneumothorax was induced. Chemotherapy with streptomycin, P.A.S., or both, was used at some time in 25% of the series. Additional methods of collapse therapy were used in 54%. No case was followed for less than three years from the initial attempt at pneumothorax induc-

tion. Eighty-four per cent of the cases were followed 5 years or more, up to 10 years.

This series of cases is in one sense a selected group in that the use of routine x-rays on enlistment and on discharge from the Service, and in certain other circumstances, probably resulted in discovery of lesions relatively soon after onset of radiologically visible disease.

In the 275 cases, 292 pneumothoraces were induced or attempted. Other relevant statistics will be set out in the discussion to follow.

Our series is termed a series of "primary pneumothorax" cases, to emphasize by inference that other methods of collapse therapy were freely used as well.

Effectiveness of collapse therapy.—It is proper to find first a base line by which one may judge the effectiveness of the therapy used in our D.V.A. series. The most satisfactory control group would seem to be obtainable from reports of treatment in years before collapse therapy of any sort was extensively employed.

The mortality of minimal cases treated by Sanatorium rest only, has been reported as 20% of 460 cases in a series recorded at the end of five years,¹ and as 23% of 98 cases observed five to fourteen years.² In contrast, our D.V.A. group of primary pneumothorax cases had a mortality of 2% of 50 minimal cases recorded at the end of the fifth year after induction of pneumothorax.

The mortality of moderately advanced cases treated by Sanatorium rest only has been reported at the end of the fifth year of observation by various authors as 53.2% (males) and 42.6% (females),³ 48%,¹ and 70.7%.⁴ In contrast, our D.V.A. group of primary pneumothorax cases had a mortality of 8% among 115 moderately advanced cases recorded at the end of the fifth year after induction of pneumothorax.

The mortality in our whole series of 275 cases, including 25% of advanced disease was only

11% in the whole period of three to ten years. Our results must be considered as satisfactory.

Empyema.—The chief danger in pneumothorax treatment is empyema. The best figure for the incidence of empyema as a complication of artificial pneumothorax must be derived from studies covering an observation period of at least five years. Four such articles, including 2,532 cases of therapeutic pneumothorax^{5 to 8} give the total incidence of empyema as 12.6%, and a mortality rate from empyema of about 45% of empyema cases. So that the mortality from empyema in five years or more among all those treated by pneumothorax has been 5.5%. It is this figure especially which is responsible for the declining popularity of pneumothorax today.

The incidence of empyema as a complication of pneumothorax treatment can be reduced in the following ways:

1. By avoiding pneumothorax in the most acute phases of tuberculosis.
2. By severing all easily and completely severable adhesions by intrapleural pneumolysis.
3. By avoiding pneumothorax in cases of advanced disease of long standing.
4. By avoiding pneumothorax in the presence of diagnosable tuberculous bronchitis.
5. By abandoning pneumothorax promptly when adhesion-free collapse is not obtained, except that broad adhesion of the lung to the diaphragm alone is not dangerous.
6. By abandoning pneumothorax when cavity closure and sputum conversion do not occur in six months under an adequate collapse.
7. By discontinuing refills gradually—not abruptly.
8. By not continuing pneumothorax longer than necessary.
9. By not maintaining a greater degree of collapse than necessary.
10. By abandoning pneumothorax when fluid persists in amount sufficient to cover the dome of the diaphragm after two or three aspirations.

In our D.V.A. series these precautions were generally observed. The incidence of empyema was thereby reduced from 12.6 to 6.2%, and the mortality from empyema was reduced from 45 to 37.5%. This works out to a mortality of 2.3% from empyema in our whole series. This is less than half the mortality experienced when the 10 rules quoted above are not generally observed. If all our cases of empyema had been avoided, and all these lives saved, only 2.3% would have been preserved. The method used instead of primary pneumothorax in order to save all this 2.3% would have to have no intrinsic mortality, and would have to equal pneumothorax as a collapse measure.

COMPLICATIONS OF PNEUMOPERITONEUM

(a) *Air embolus.*—A review of nine articles on pneumoperitoneum^{9, 10, 17} collected 2,643 cases of pneumoperitoneum, among which air embolism occurred in 0.6% with a mortality of 31.3% or about 0.2% of those treated.

(b) *Significant and persistent effusion.*—A review of seven articles on pneumoperitoneum,^{10, 13, 15, 17 to 20} collected 2,646 cases of pneumoperitoneum, among which significant and persistent effusion occurred in 2%, over a short period of observation, with most cases still continuing treatment. Mortality as high as 50% was reported. Tubercle bacilli may be found in such effusions, which are to be interpreted as due to tuberculous peritonitis.

The long term mortality from such effusions is not yet apparent from the literature. It is, however, generally agreed that when a peritoneal effusion persists in considerable amount, it is best to abandon this treatment, and it is generally agreed that pneumoperitoneum tends to aggravate intestinal, pelvic, or other abdominal tuberculosis. Therefore pneumoperitoneum should be considered as contraindicated in the presence of abdominal tuberculosis.

It is apparent that pneumoperitoneum is not free of intrinsic mortality.

Relative effectiveness of collapse.—The tendency of some medical writers to describe results of collapse therapy as "satisfactory" or "unsatisfactory" is to be regretted. An objective basis for comparison of pneumothorax with pneumoperitoneum is required. Three objective results of collapse therapy are available, namely sputum conversion, cavity closure, and survival for a stated period of time.

Sputum conversion.—Among 1,360 pneumoperitoneum cases collected from five articles^{13, 14, 21, 22, 23} I find 50% converted. These series had from 64 to 98% of cases of advanced disease. The series reporting 64% of advanced disease contained 546 of the 1,360 cases.

Among 3,689 pneumothorax cases collected from seven articles^{7, 24 to 29} I find 55% converted. These series had from 39% to nearly all advanced disease. The article reporting the group described as nearly all advanced included 2,384 of the 3,689 cases, and another 549 cases^{24, 28} had about 90% advanced disease.

It would appear that there was a higher proportion of advanced disease in the pneumothorax group than in the pneumoperitoneum group. In

spite of this pneumothorax provided a higher percentage of converters.

Cavity closure.—Among a total of 921 cavity cases treated by pneumoperitoneum^{13, 14, 21 to 23, 30} cavity closure was achieved in 51%. These articles did not always make it possible to determine the percentage of advanced disease among these cavity cases. The range was from 40 to 100%. The latter figure was in a series of 207 cases.²²

Among a total of 705 cavity cases treated by pneumothorax, closure was achieved in 73%.^{6, 25, 29, 31} The incidence of advanced disease in these series ranged from 39% to nearly all. The latter series included 341 cases.³¹

Pneumothorax plainly shows its superiority here.

Cavity closure, as we all know, can be accomplished by bed rest alone. In this connection it is instructive to note that Wright³² found that recumbency affects lung volume more consistently and to a greater degree than does pneumoperitoneum and Panto³³ has noted that when the patient lies on the affected side with the foot of the bed raised 4 to 8 inches, the diaphragm would rise 6 or 7 cm. Applying this knowledge to treatment by posture, with and without phrenic crush, Dormer and others³⁴ have published favourable results in individual cases. I hope this method may be more widely tried, particularly in advanced disease of long standing.

The closure of cavities by bed rest alone has been recorded in 13% of 71 cases of "nearly all" advanced disease;³¹ and in 51% of 72 cases,³⁵ about half of whom were advanced. This latter figure approaches closely the results reported for pneumoperitoneum.

Survival.—When this paper was written, no long term report on pneumoperitoneum had been recorded in such a way as to afford a useful basis of comparison with our series. Crenshaw's²⁵ survival figures equalled ours, but his figures for arrested and inactive disease are not nearly as good. His survival figures are weakened by the fact that his report does not include 119 cases to whom pneumoperitoneum was given for less than six months.

SUMMARY AND CONCLUSIONS

An attempt has been made to evaluate the results of treatment in a series of 275 cases in whom pneumothorax was attempted or used.

Other collapse methods were freely employed as well. These results were composed on the basis of five year survival with results of treatment by bed rest derived from the literature of past years in which collapse therapy was little used. The survival over five years of 89% of our series is considered very satisfactory.

The incidence of empyema among all cases in which pneumothorax was induced in our series, over an observation period of at least three years and exceeding five years up to ten years in 84% of the series, was 6.2%. This is compared with an incidence of empyema of 12.6% among a large number of cases collected from the literature and observed for a similar period.

In our series certain precautions were generally observed in the selection of patients for pneumothorax and in their management; whereas in the collected series, such precautions were not usually observed. The reduction in the incidence of empyema from 12.6 to 6.2% is interpreted as indicating the effect of such precautions.

The mortality in our series from empyema was 37.5% of empyema cases and only 2.3% among all our induced pneumothoraces. If all cases of empyema had been avoided and all these lives saved by avoiding pneumothorax entirely, only 2.3% would have been saved.

The method used instead of "primary pneumothorax" in order to save this 2.3% would have to at least equal pneumothorax in effectiveness and to have no intrinsic mortality or its own.

It was then shown from a survey of the literature that pneumoperitoneum was not free of mortality, which might be as much as 1% over a five-year period.

Comparison of the effectiveness of pneumothorax and pneumoperitoneum as collapse measures was then attempted by a study from the literature of sputum conversion and cavity closure. Although it appeared that the pneumothorax cases reported were more often in the "advanced" classification than were the pneumoperitoneum cases, pneumothorax gave superior results by a substantial margin. It is concluded that pneumothorax is, as a means of collapse, superior to pneumoperitoneum.

It was noted that bed rest only has been reported as giving results which closely approach those of pneumoperitoneum insofar as cavity closure is concerned and this without the desir-

able additional use of posture or an abdominal binder for the bed rest cases.

It is concluded that with all its disadvantages pneumothorax as the primary procedure is still to be preferred to pneumoperitoneum for the majority of cases to which collapse therapy is applied: provided experienced operators are available who are willing to observe certain precautions detailed above in the selection and management of pneumothorax cases.

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CASE REPORTS

ACUTE INCOMPLETE INVERSION
OF THE UTERUS

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THIS CASE is reported for two reasons: (1) Because the seemingly normal uterus may be misleading. (2) Because of its rarity. Eastman reports its occurrence but once in 20,000 cases at Johns Hopkins Hospital.

The patient was a healthy 22 year old primipara. The pregnancy had been normal. Labour began at term with spontaneous rupture of the membranes. She was admitted at 1.00 p.m. on October 27, 1952, to the Hotel Dieu Hospital, St. Catharines, in active labour.

The head was engaged in the left occipito-anterior position. The first stage was short lasting only seven hours. At 5.00 p.m. the caput was visible. At 5.50 p.m., following an episiotomy, she was delivered by low forceps of a living male infant weighing 8 lb. 6 oz. Pituitrin 1 c.c. was given after the birth of the child. The episiotomy was repaired. At 6.10 p.m. the placenta was expressed intact being delivered by the Schultz mechanism. Ergometrine 0.2 mgm. was given intramuscularly.

As some free bleeding with large clots occurred, ergometrine 0.2 mgm. was given intravenously. At 6.20 p.m. she suddenly became shocked, being pale, cold, and clammy. The pulse was imperceptible. At 6.30 p.m. an intravenous of 10% glucose in distilled water was started in the right median cephalic vein. Coramine 1 c.c. was given. The uterus felt firm and there was no undue vaginal bleeding.

At 7.00 p.m. a transfusion of 500 c.c. of whole blood was started. The pulse was weak and rapid, but her general condition seemed better. At 7.45 p.m. she was moved from the delivery table. Her condition became worse. The pulse was unobtainable. She was pale and restless. Morphine gr. 1/6 per hypo was given. The transfusion was running well.

At 8.30 p.m. the patient was seen in consultation. She was in profound shock; semi-conscious, pale, cold, pulseless, and with no detectable blood pressure. There was no vaginal bleeding. The abdomen appeared normal. The bulge of a well contracted uterus extended from the pubis to just below the umbilicus.

On palpation the uterus was firm. The only unusual finding was in the region of the fundus. What felt at first to be a fibroid could be traced laterally and posteriorly as the rim of a crater. The depression was more on the posterior aspect of the fundus being thereby somewhat concealed. It was about 2 inches deep and admitted the fist.

A diagnosis of acute incomplete inversion was made. Under chloroform and ether anaesthesia, a vaginal examination was done at 9.30 p.m. A small amount of blood clot was present in the vagina. The cervix was widely dilated. The uterine cavity contained a small amount of blood clot, and was half filled by the inverted fundus. The extent of the inversion was surprising when compared with the abdominal findings.

Steady pressure was applied against the fundus with counter pressure by the abdominal hand. For several minutes there was no change, when suddenly the inversion reduced, just as a bulge in a rubber ball may be rolled outwards. Exploration of the uterus found no sign of rupture. The placenta had been attached over the area of inversion.

PROGRESS

The patient's general condition began to improve remarkably. The carotid pulsations returned in five minutes and the pulse in fifteen. The blood transfusion was continued, 1,500 c.c. of whole blood being given over four hours.

Recovery was uneventful except for a complete failure of lactation. Antibiotic therapy, consisting of 300,000 units of penicillin procaine G, 100,000 units of penicillin potassium G, and 0.5 gm. of dihydrostreptomycin sulphate, was given daily for four days. At no time did she have a fever. When discharged on the 8th post partum day her hæmoglobin was 80%.

At a post natal examination, seven weeks after delivery, she looked well and the pelvic findings were normal.

SUMMARY

1. A case of acute incomplete inversion of the uterus causing severe post-partum shock is recorded.
2. Although the uterus appeared normal, diagnosis was made by palpating a characteristic cup-like depression at the fundus.
3. Treatment consisted of anti-shock measures and manual reduction of the inversion under ether anaesthesia.

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SEAL DISEASE*

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SEAL DISEASE (also known as seal finger, fat finger, blubber finger, speck finger) is an occupational disease of seal fishermen which is well known to physicians in the coastal regions of Norway and of Newfoundland. Little has been written about the disease, a search of the literature reveals a few articles in Scandinavian journals, a reference to one of these in an American journal¹ and a brief, succinct description as part of an article in a British publication.²

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Seal fishermen contract the disease by contact with the seal carcass, especially during the process of skinning. The usual involvement of the right index finger has been attributed to the habit of dragging the skin over the ice by hooking the finger through the eye-hole. Since the infection is usually sustained in remote regions the acute phase of a swollen, tense, glistening finger is often not seen by the physician who subsequently has to deal with the more chronic phase of the disease.

Waage¹ found 30 cases of seal finger among the members of 34 sealing crews. It does not occur among whalers. The pathology has been described by Mathiesen, Haupl and Thjotta³ as disseminated infiltrations in the loose, subepithelial connective tissue of the finger, also in the fatty marrow of the bone, and with a marked tendency to involve and destroy the cartilage of the interphalangeal joint. If the infection is limited to the soft tissue recovery may be complete in two to three weeks, but the commonly associated osteomyelitis frequently lasts six to eight months. Amputation of part or all of the finger may be necessary and, in the absence of amputation, a stiff finger is a common sequel because of the joint involvement.

A definite etiological agent has not been isolated. Olds² obtained an apparently identical staphylococcus from infected fingers and seal tissue while Thjotta and Kvittingen⁴ isolated a pigment-producing micrococcus from two patients which proved to be only a moderately good antigen in rabbits.

From the report of Waage it would appear that aureomycin possesses very distinct value as a curative agent, causing rapid resolution of the acute phase of the infection and preventing osteomyelitic involvement.

W.T., a 29 year old fisherman, from Campobello Island, N.B., was first seen on November 17, 1950, being referred by Dr. J. C. Bates, Eastport, Maine, because of a chronically infected index finger of the right hand of eight weeks' duration, accompanied by an indolent lymphangitis on the inner aspect of the right upper arm and an axillary adenitis. Biopsy of tissue from the indurated area on the medial aspect of the upper arm was reported as showing chronic inflammation. Discharge had occurred from the distal end of the finger before the patient had consulted a doctor. He had been given repeated injections of penicillin, oral sulfadiazine, the finger had been incised without showing evidence of pus, blood count and urinalysis had been negative and roentgenographic examination had been negative. He was referred for investigation because an unusual clinical entity was suspected.

Physical examination was negative apart from the local condition. The terminal phalanx of the right index finger showed moderate swelling, was red and had a

"beef-steak" appearance in the region of previous incision. Some firm, discrete, non-tender glands were palpable in the lateral aspect of the right axilla. Linear, non-tender induration was evident in region of previous biopsy on the medial aspect of the right upper arm. The skin at the biopsy site was healing well. The patient was of the impression that the adenitis and lymphangitis had shown marked improvement following the injections of penicillin but that the finger had remained unchanged.

The only history of contact with animals was on one occasion three weeks prior to the first symptoms of the disease when the patient had killed a seal and, in the process of cutting off the snout to be turned in for the Federal bounty, had scratched the skin on the end of the right index finger.

On admission to hospital cultures from the finger (including inoculation on Sabouraud's medium) were negative. Blood count was normal (haemoglobin, red, white and differential), as was the urinalysis. Roentgenographic examination of the finger at this time demonstrated an osteomyelitis of the phalangeal surfaces adjoining the distal interphalangeal joint. Temperature and pulse rate were normal throughout his hospital stay. Kahn test was negative.

Slow subsidence of evidence of inflammation in the finger occurred with Chloromycetin and Dr. J. A. Finley amputated through the level of the proximal interphalangeal joint on November 28. Recovery was uneventful and the patient was discharged from hospital on December 8. Sections from the amputated tissue were reported as showing chronic, non-specific osteomyelitis and periostitis.

The clinical course and pathological findings in the above case are similar to those reported in seal finger. Lymphangitis is not considered as a manifestation of seal finger but this well may be a manifestation of secondary infection in the present case since it apparently responded well to penicillin and sulfadiazine with no concomitant improvement in the primary process.

SUMMARY

1. Seal disease, or seal finger, is a fairly common cause of disability among seal fishermen, but is poorly documented.

2. The period of disability may be prolonged and may result in a permanently stiff finger, or necessitate amputation because of chronic osteomyelitis.

3. The etiologic agent has not been proved but apparently it is sensitive to aureomycin (and, probably, to chloromycetin).

4. An apparently typical case is presented, which is of particular interest because of the geographical location and, since the killing of seals is common among fishermen along the North Atlantic seaboard, the medical profession should be more aware of the clinical picture of seal disease.

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WATERHOUSE-FRIDERICHSEN SYNDROME OF NON- MENINGOCOCCAL ORIGIN IN AN ADULT WOMAN*

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THE OCCURRENCE of bilateral adrenal hæmorrhage connected with meningococcal septicemia in children under 9 years of age is a well-known syndrome. Cases of this condition in adults and particularly of non-meningococcal origin are relatively rare. It was therefore felt that the following case merits reporting.

A 60 year old white female was admitted to St. Joseph's Hospital on November 15, 1952 with acute bowel obstruction and a history of increasing spotting of blood from the vagina. There was marked loss of weight and strength during the weeks preceding admission to hospital and also a history of nausea and vomiting.

The patient was in acute distress. She was greatly emaciated. Examination of the chest was not remarkable. The heart sounds were well heard, there was no evidence of murmurs. Pulse was regular and rhythmical. Blood pressure was 140/80 mm. Hg., pulse 100, respiration 20, and the temperature was below 97° F. The abdomen appeared distended and there was definite evidence of guarding on palpation. No masses however could be felt. A bright red vaginal discharge was noted. Rectal examination was not remarkable. X-ray examination revealed dilated loops of the small bowel which were thought to be in keeping with a small bowel intestinal obstruction. Laboratory examination showed urine positive for albumen, 2-6 W.B.C., Hb. 78%.

The patient was given supportive therapy, duodenal suction, and after preoperative preparation on November 17 a laparotomy was performed. A right rectus incision was made, the peritoneal cavity was opened and a large amount of greenish fluid was found. There were numerous loops of largely distended bowel. On palpation a mass could be felt in the rectosigmoid area. A right upper quadrant colostomy was performed and the abdomen was closed. On the second postoperative day at 7 p.m. the patient suddenly became very weak and restless. The systolic blood pressure dropped to 80 mm. Hg. and the diastolic became unobtainable. It remained at this level until the patient's death. The pulse became very weak and irregular and the respirations shallow, and the extremities were found to be cold and clammy. The temperature was 98° F. before this incident and

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rose to 106.2° F. about 18 hours after the start of this episode, when the patient died having lapsed previously into unconsciousness.

At postmortem examination 3 hours after death the following pertinent findings were noted. Both pleural cavities showed presence of about 200 c.c. of clear amber fluid. There were several small subpleural hæmorrhages. The lungs were of normal weight and slightly congested on the cut surface. The pericardium contained 50 c.c. of clear amber fluid. The heart was normal except for a minor vascular anomaly of the descending branch of the left coronary artery. The abdominal cavity showed a large amount of foul-smelling brownish exudate. All organs as well as the loops of small and large bowel were covered by a thick layer of fibrinous material and many of these loops were adherent to each other. The pelvis showed a necrotic purulent tumour mass, which originated from the uterus. It had invaded the sigmoid and created a perforation of it, measuring about 1 cm. in diameter. The parametrium showed presence of tumour tissue. Liver, biliary tract, pancreas and spleen were essentially normal. The left kidney weighed 120 gm. the right 115. The organs on gross examination were not remarkable. The uterus had been transformed into a large mass of friable tissue, which arose in the endocervix and extended the full length of the organ and had destroyed to a great extent the corpus.

Both adrenals showed remarkable changes. The right adrenal was greatly enlarged and was transformed into a bag-like structure. It weighed about 10 grams and measured 8 x 4 x 5 cm. It contained a large amount of blood clot in the centre, which had perforated the upper pole and partially spilled into the retroperitoneal space. The left adrenal measured 5 x 2 x 0.8 cm., it weighed about 5 gm. and also showed evidence of extensive hæmorrhage into the inner layers of the cortex and the medulla. It failed to show the extreme picture seen on the right side. Cultures taken from the peritoneal exudate showed paracolon bacilli, *Staph. aureus* and fecal streptococci.

Microscopic examination of the uterine tumour mass revealed a squamous cell carcinoma of the cervix, which in some areas had also invaded the sigmoid. Sections from adrenals showed marked evidence of necrosis of cortex and medulla with extensive hæmorrhage and some polymorph infiltration. The zona fasciculata was particularly involved.

COMMENT

Waterhouse-Friderichsen syndrome in the majority of cases is a condition associated with meningococcal septicæmia. According to Lindsay¹ it occurs in 90% of all cases in children under the age of 9 years. The etiologic agent in most cases has been meningococcus; there is however a small group, in which other organisms have been recovered from the blood as *Staphy. aureus* and pneumococcus.^{2, 3} In addition one case is on record in the American literature⁴ of this syndrome occurring in a 56 year old woman suffering from extensive endometrial carcinoma with secondary infection by anaerobic streptococcus. In our case the diagnosis of Waterhouse-Friderichsen syndrome was entertained by one of the attending interns. It is however not suggested that the diagnosis would have in any way influenced the outcome of this case of far-advanced

carcinoma and peritonitis. On the other hand early diagnosis of this disease condition has become increasingly important, as recovery in some cases of Waterhouse-Friderichsen syndrome has been reported since the advent of sulfonamides, antibiotics and cortisone therapy.⁵ In this sense it was felt by the authors that this case should be reported, to draw attention to the occurrence of this syndrome in a case of overwhelming infection with enteric organisms in a patient well over average incidence age, in which this condition is found. This might stimulate awareness of this syndrome in some cases, distinct from the present one, amenable to therapy.

SUMMARY

A case of massive bilateral adrenal hæmorrhage and necrosis has been reported in a 60 year old woman, suffering from extensive carcinoma of the cervix with extension into the sigmoid and terminal peritonitis.

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UNSUSPECTED CEREBRAL TUMOUR

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THE FOLLOWING CASE shows an interesting sequence of events.

He was a man of 52, whose history showed that he had had a right inguinal hernia easily reducible through a large internal ring. Repair had been refused. On walking to work he slipped and fell down a steep bank with lunch bucket in hand, and thinks this must have been crushed against the right inguinal area.

He developed very acute pain in this area immediately. Admitted to hospital and given morphine at 7:00 a.m. The area over hernia and ring acutely tender. Mass in canal which was reduced easily with no effort necessary. At 10:30 a.m. I saw him in consultation. He looked sick and restless, complaining of cramplike pain mostly epigastric and referred to right scapular region.

The abdomen was generally tender but no rigidity to speak of. Inguinal canal appeared and felt normal. Pulse 80. B.P. 140/80. T. 98.

Operation under spinal anaesthesia. Right inguinal hernia incision. Old sac thickened and adherent. No contents on opening sac at internal ring. Free blood in peritoneal cavity. Small bowel delivered through ring and found almost completely severed and three inch tear in mesentery which was bleeding freely. Pelvis full of blood. No swelling or ecchymosis around tear in bowel. As there was small area bowel wall holding on antimesenteric surface decided to do repair rather than resect. Mesentery closed and bowel repaired. Blood transfusion on table with intravenous aureomycin.

This small bowel must have been lying in inguinal canal and torn across by impact of bucket. The complete deflation of bowel accounted for the easy reduction of the hernia.

In 48 hours patient out of bed feeling well. Abdomen soft. Same day complained of weakness on left side of body and appeared mentally confused. X-ray of skull negative. Very little if any changes in reflexes. No Jacksonian symptoms. Weakness left arm and leg progressed. Mental condition became worse and he complained of neglect in ward and persecution.

Referred to Crease Mental Clinic in Vancouver, B.C. for observation and diagnosis. As his condition appeared to be surgical he was transferred to Vancouver General under Dr. Turnbull. On admission neurological examination revealed a varying state of mental confusion and disorientation of time and place. Aphasia chiefly of in-nominal type was present. Pupils reacted to light and accommodation. Some restriction of field of vision especially in horizontal level. There is now a left hemiparesis with increase in left tendon reflex responses.

E.E.G. examination disclosed disturbance of cortical activity throughout right hemisphere but with maximum involvement of the right fronto-temporal area.

A pneumogram did not visualize a right lateral ventricle whereas the left lateral ventricle was distorted, enlarged and slightly shifted to left. There was a suggestion of an outline of fluid in the A.P. view of right side with cortex being compressed to extent of about 1 c.u. spinal fluid pressure increased to 480 mm. of water. Spinal fluid protein was 36 mgm.

Clinical impression at that time was that this patient was suffering from a right subdural haematoma. Condition deteriorating since admission. Responded verbally but answered slowly. Pupils pin point and react sluggishly to light. Slight facial drop.

Taken to O.R. for bilateral burr holes and biopsy showed tumour. He died 45 minutes after leaving O.R.

Summary of pathological findings: (1) Astrocytoma of brain, grade 3, bipolar spongioblastoma. It was large and deeply situated in the right frontal region. (2) Cerebral oedema with hippocampal herniation. (3) Extensive pontine haemorrhages. The cerebral haemorrhage undoubtedly caused his death.

There was no sign of injury on the abdomen or skull. The fall that caused the ruptured bowel and mesentery may have started haemorrhage around the brain tumour which was previously not causing symptoms. One may even surmise that the tumour might have contributed to his original fall.

CLINICAL AND LABORATORY NOTES

THE FORMATION OF ARTIFICIAL THEBESIAN CANALS IN THE WALL OF THE LEFT VENTRICLE

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THE SURGICAL TREATMENT of coronary artery insufficiency is a most complex problem. Various methods of bringing fresh arterial blood to the ventricles have been devised. In our laboratory we have been most successful in revascularizing the myocardium of the left ventricle with an implanted internal mammary artery. This procedure has been proved of value in the animal, and now seems to be successful in treating coronary artery insufficiency with or without infarction in man.

In this method the internal mammary artery is placed within a tunnel in the left ventricular myocardium, either with its end open or with an open attached intercostal artery. Blood leaves the implanted internal mammary artery and within a few days vessels are formed which communicate directly with the arterioles of the left coronary vessels. This occurs in approximately 75% of the implants: in 25% the artery either blocks or fails to form an anastomosis.

At the moment we are actively engaged in attempting to discover the technical factors responsible for the 25% failures.

At the same time we have been conducting experiments based on the same principle as the implanted internal mammary artery but using a different source of arterial blood, namely, the left ventricle itself.

The presence of a vast supply of oxygenated blood within the lumen of a ventricle whose walls are dying of anoxia is one of nature's strangest paradoxes. The possibility of tapping this source of arterial blood and directing it into the ventricular walls occurred to us four years ago. Consequently, certain experiments have been carried out, a preliminary report of which is submitted in this article.

CREATION OF ARTIFICIAL THEBESIAN CANALS

Three types of experiment have been carried out:

1. *Tapping the left ventricular cavity, using a free femoral arterial graft.*

In this procedure a 3 inch piece of the anterior femoral artery of the same animal is removed from the thigh. One end of this free arterial graft is inserted into the left ventricular lumen and the other end buried within a tunnel made in the wall of the ventricle. In each case a branch

of the graft was left open so that blood from the ventricular cavity could flow into the ventricular wall. This procedure is similar to that of the implanted internal mammary artery, except that the source of fresh arterial blood is the left ventricular lumen instead of the subclavian artery.

There were six animals in this series. The animals were sacrificed from 6 weeks to 3 months later, and it was found that of the six only three arteries were patent. In each case the heart was opened and the internal opening of the arterial graft injected with Schlesinger's solution. After the injection an x-ray was taken. In only one of

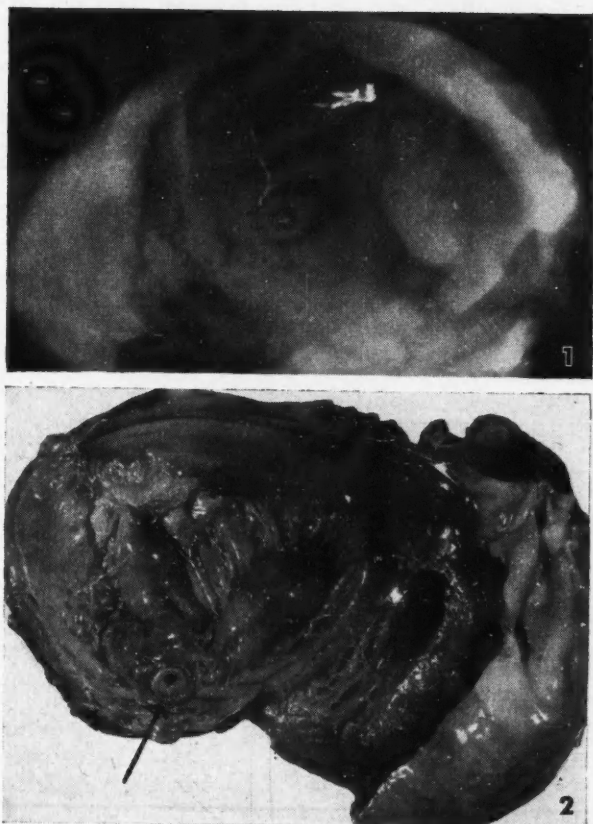


Fig. 1.—X-ray of ventricular opening of arterial graft implant injected 61 days after implantation. Schlesinger's solution is seen within the graft and spreading from the graft to the surrounding coronary vessels. Fig. 2.—Heart of dog 27 days after implantation of arterial graft with polyethylene tubing attached. The left ventricle has been cut open to show the open end of the polyethylene tube lying on the surface of the left ventricle (bottom left). Note that the lumen is free of thrombi. The artery attached to this tube was completely patent, however injection with Schlesinger's solution failed to show any evidence of branching of the graft.

the six was there evidence that the graft had anastomosed with the coronary circulation. This anastomosis was not very extensive, but it was definitely present (see Fig. 1).

2. Tapping the left ventricular cavity, using double implants of free femoral arterial grafts.

In this series there were eight animals. In each two free portions of femoral arterial grafts were used to tap the left ventricular cavity. The tech-

nique of insertion of grafts was the same as in the first group of experiments. One graft was placed in the anterior surface of the left ventricle and the other in its posterior surface.

There were eight animals with a total of 16 grafts. Of these, only two were patent after the short interval of 10 days. Neither showed evidence of branching after injection with Schlesinger's solution. The remaining grafts were either blocked by a thrombus on the ventricular side or had not penetrated the full thickness of the ventricular wall. The majority were completely sclerosed.

3. Tapping the left ventricular cavity by an implant of free arterial graft with an attached piece of polyethylene tubing.

There were 5 animals in this series. In each case a piece of polyethylene tubing 3/8 inch in length, with one end made into a flange, was attached to a free femoral arterial graft. The flanged end of the polyethylene tube was inserted into the ventricular lumen and the arterial graft buried within the myocardial tunnel with an attached open bleeding branch. Of the 5 grafts all but one were blocked by a thrombus at the ventricular opening. The one which was patent was in an animal killed in a fight 27 days after operation. The artery was completely patent but failed to show branching when injected with Schlesinger's solution. The patent opening of the polyethylene tube attached to the femoral graft is shown in Fig. 2.

DISCUSSION

There are many technical difficulties involved in tapping the left ventricular cavity. These have been satisfactorily and simply solved. Blunt dissection without cutting the circular heart muscle fibres is the answer to this phase of the problem.

The factors which keep the artificially created pathway open, however, are still under study. There is still a question in our minds as to the value of such a channel once it is created. There is evidence to suggest that an artificially produced canal leading from the left ventricular cavity into the left ventricle may be capable of relieving myocardial ischaemia of coronary origin. It is well known that although coronary artery occlusion occurs not infrequently in the right coronary artery, it is very rarely that right ventricular infarction develops. There are also cases on record in which the Thebesian canals have become markedly enlarged in the left ventricle. In such cases all the coronary arteries have been thrombosed and the heart has apparently been nourished through the enlarged Thebesian canals. The efficiency of a circulatory source arising from the ventricular cavity and entering the walls of the left ventricle in the relief of coronary artery insufficiency has still to be tested.

CONCLUSION

Artificially created Thebesian canals have been made by inserting free arterial grafts into the lumen of the left ventricle.

Some of these grafts have remained open with one end facing into the ventricular lumen and the other end buried in the wall of the left ventricle.

Polyethylene tubing has been used to help in keeping the grafts patent.

MODIFIED LARYNGEAL SWAB METHOD FOR THE DETECTION OF TUBERCLE BACILLI IN PULMONARY TUBERCULOSIS*

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LARYNGEAL, or sublaryngeal swabs for the detection of tubercle bacilli first came into use in 1905. Blume,¹ in the Low Countries, reported that he had examined microscopically smears of swabs taken from patients with active tuberculosis. In 1931, Grass² reported that cultures of laryngeal swabs are an aid in the diagnosis of tuberculosis. Schramek and Hegedus³ published a detailed description of a laryngeal swab technique for the detection of tubercle bacilli in 1935. The technique which these investigators described, or modifications thereof, have been used in many places in Europe in the past fifteen years.

In 1951, Armstrong and Foster⁴ described a new method of culturing laryngeal swabs. Their method differs from that of earlier investigators in that they inoculate tubes of Dubos-Middlebrook's liquid oleic acid albumen medium with the washings of swabs.

Later in 1951 Armstrong⁶ reported on the results of comparison of cultures of one specimen of gastric contents and cultures of three laryngeal swabs processed in the manner just described. His laryngeal swab material consisted of specimens collected on each of three successive days. He found that in a series of 967 such comparisons, one culture of one laryngeal swab specimen was somewhat superior to one culture of one gastric contents specimen, and that three consecutive laryngeal swab cultures yielded almost twice as many positive findings as one gastric contents culture.

By reason of the great number of out-patients, many tuberculosis clinics and hospitals are unable to apply to all of them the repeated sputum

or gastric contents examinations which are required to permit of classification of all the pulmonary lesions in essentially asymptomatic but x-ray positive persons in terms of present generally accepted standards. (Diagnostic Standards 1950). The laryngeal swab method of collecting and examining specimens for the detection of tubercle bacilli seems to offer a means of determining the bacteriological status of a far greater number of persons than can be done by the usual routine methods. Besides, as pointed out by Armstrong, the swab method is far more acceptable to the patient than is gastric lavage, and the patient, who does not need to be fasting, can be examined at any time of the day.

In an effort to assay the procedure described by Armstrong, specimens for examination for tubercle bacilli were collected by the laryngeal swab method from one hundred patients in hos-

TABLE I.

STUDY OF 100 HOSPITAL PATIENTS			
Armstrong's Technique: 3 swabs taken at 3 sittings.			
1. Comparison between cultures from swab-washings and cultures from gastric contents or sputum:			
Gastric contents (or sputum) +, laryngeal swabs +	:	46	
" " " " -, " "	:	18	
" " " " +, " "	:	11	
" " " " -, " "	:	25	
2. Number of positive swab-cultures for each swab-positive patient:			
(a) Gastric contents (or sputum) +, laryngeal swab +			
Swab-culture + once	:	13	
" " + twice	:	14	
" " + all 3 times	:	19	
		46	
(b) Gastric contents (or sputum) -, laryngeal swab +			
Swab-culture + once	:	14	
" " + twice	:	5	
" " + all 3 times	:	6	
		25	

pital. The results obtained from the cultures of these swabs were compared with the results of all the routine examinations of specimens of sputum or of fasting gastric contents collected from these same patients in the two or three months preceding introduction of the laryngeal swab method and the month immediately thereafter. The findings obtained in the course of this study are recorded in Table I. The swab cultures failed to yield evidence of *M. tuberculosis* in 11 instances in which specimens of sputum or fasting gastric contents did so. In 25 instances, however, the swab washings gave evidence of *M. tuberculosis* when the sputum or fasting gastric contents failed to do so.

While the work just described was in progress, we began to suspect that in some instances tubercle bacilli were being lost when the cotton swab was discarded after having its contents

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supposedly expressed inside the culture tube. Considerations of this kind, and the fact that Grass discarded the washings and cultured the swabs while Armstrong discarded the swabs and cultured the washings, led us to attempt to introduce some changes in the latter's technique. We found that the cotton on the laryngeal swab applicators can be replaced by "Gelfoam"* which is made of gelatine and is commonly used to produce hæmostasis. This material dissolves in 3% NaOH and does not interfere with the growth of tubercle bacilli in the oleic acid albumen medium: Gelfoam swabs, dipped in a dilution (10^{-6}) of a ten-day culture of H₃₇R_v, each c.c. of which contains 0.20 mgm. (dry weight) of bacilli, gave positive cultures.

TABLE II.

STUDY OF 204 OUT-PATIENTS				
Modified technique with "Gelfoam": 2 swabs taken on one sitting				
1. Comparison between cultures from dissolved swabs and cultures from gastric contents:				
Gastric contents	+	laryngeal swab	+	: 31
"	"	"	"	: 157
"	"	+	"	: 2
"	"	—,	"	: 14
2. Number of positive swab-cultures for each swab-positive patient:				
(a) Gastric contents	+	laryngeal swab	+	
Swab-culture	+	once		9
"	"	+ twice		22
				31
(b) Gastric contents	—,	laryngeal swab	+	
Swab-culture	+	once		12
"	"	+ both times		2
				14

The laryngeal swab method which we have evolved as a result of the foregoing is briefly as follows:

The swabs are taken with Gelfoam, measuring approximately 1 x 3 cm., rolled around the applicator and fixed with silk thread. Pieces of Gelfoam of this size dissolve in 2 c.c. of 3% NaOH in twenty to twenty-five minutes at 38° C. The applicator is then removed. Thereafter the fluid is neutralized with a few drops of 50% hydrochloric acid. Phenolphthalein is used as indicator. 25 c.c. of oleic acid albumen medium⁷ is then added to the neutralized fluid and the tube, the same one in which the applicator with its Gelfoam swab was originally introduced, is plugged, covered with paper to reduce evaporation, and incubated for six, seven or eight weeks. Table II portrays results obtained by means of two laryngeal Gelfoam swabs and one specimen of fasting gastric contents. Swabs and fasting gastric contents were collected within a few minutes of each other on one and the same morn-

ing. Out-patients, 204 in number, were the source of the specimens for this study.

Swab cultures obtained from this group of patients failed to yield signs of *M. tuberculosis* in only two instances in which the gastric contents cultures proved to be positive. They yielded evidence of *M. tuberculosis*, however, in 14 cases in which the gastric contents cultures failed to do so. These findings seem clearly to indicate that two laryngeal Gelfoam swab cultures are superior to one fasting gastric contents culture insofar as the detection of tubercle bacilli in out-patients presenting x-ray signs suggestive of pulmonary tuberculosis is concerned.

A comparison of the number of positive swabs for each swab-positive patient in both tables reveals that patients with positive cultures from gastric lavage or sputum frequently have both, or all three laryngeal swab cultures positive. On the contrary, when the cultures of gastric contents or sputum are negative, at least three swabs should be taken to confirm the result.

Having demonstrated that the new laryngeal swab method described herein affords a ready and seemingly superior means for detecting tubercle bacilli in out-patients, we have recently undertaken to use this procedure in all persons with asymptomatic minimal pulmonary disease—presumably tuberculosis—who report to our clinic for advice. Our present routine in this connection is to take two laryngeal swabs the first time that each person in the category just described reports to our clinic, and to take two more swabs one week later on the occasion of his second visit. The results of this investigation will be reported later.

CONCLUSION

Presently available findings seem clearly to indicate that the modified laryngeal swab method is going to make it possible to assess the bacteriological status of pulmonary lesions in out-patients under our supervision more accurately than has been the case heretofore.

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*"Gelfoam" The Upjohn Company, Kalamazoo, Michigan, U.S.A.

The discoveries of the past have given to the present generation an impressive scientific background and the tools to carry on, but at the same time they have revealed the boundaries of large areas of terra incognita. Its exploration is the task ahead, to success in which we may look forward with confidence. We know that nature does not willingly yield its secrets, but we also know that she has to contend with man's unquenchable thirst for knowledge.—M. L. Tainter: *Int. Rec. Med. & Gen. Practice Clin.*, 166: 227, 1953.

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EDITORIAL

THE WINNIPEG MEETING

Somewhere in one of his essays Robert Louis Stevenson speaks of sitting in the sunshine between the acts of an opera and letting the colour and feeling of the music evaporate from his mind. In that mood one may look back at the Winnipeg meeting now nearly two months behind us but still so easily to be recalled in all its delightful hospitality. We become accustomed perhaps to the gradual build-up each year leading to the final orchestration of co-ordinated and carefully selected accomplishment. But even the most seasoned cannot but feel afresh the inspiration and stimulus of the dénouement and appreciate its accompaniment of kindly welcome.

What was the dominating note of the proceedings? Out of the volume of material presented each will select his own highlights. In general it might be said however, that the very superabundance of occupation was in itself a problem. This was obvious in every department; in the scientific program, where there was inevitable overlapping; in the social and entertainment area, where the time was all too short; in the executive and Council deliberations, where it was most evident of all. It is this already high and still rising pressure of business which is becoming so difficult to fit into the rigidly bounded time at our disposal. How much the activities of the Association have increased, how many the problems facing it, needs little demonstration. A glance at the various committee reports will give some idea of these problems, but it is a characteristic of committee reports that they may fail to transmit the warmth and even urgency that often lies behind them. Nor have we yet found it possible to report in detail the discussions in Council which sometimes bring out this very warmth. The Council debates deserve much fuller report than is possible at

present, and perhaps this will be considered later. Certainly our members cannot too clearly understand with what sincerity and effort Council deals with all Association affairs. Some of these now go beyond the merely domestic affairs of our organization. These latter are vital of course and must be handled with judgment and insight, for they govern our activities—the raising of our fee is a case in point. But our relationship with governmental action in matters of health, which need unremitting attention and thought; the continually intrusive if somewhat indefinable demands of public relations; the inspection and accreditation of hospitals; our share in international health activities: these are all evidence of the extent to which our Association is recognizing and accepting its share in medical affairs.

HEALTH PLANNING IN CANADA

The pattern of health progress is a significant and thought-provoking phrase, and the Honourable Paul Martin must have chosen it with some care when he used it as the title of his address before the Association at the Winnipeg meeting in June. How this pattern is being laid down, and—of more importance still—what precisely it is going to be like eventually, were the points on which his audience wished most to be enlightened. We are glad to publish the address in the present issue.

Mr. Martin first discussed certain problems facing all those concerned in providing medical services; the maintenance of high standards; the provision of adequate facilities for the doctor's work; the retention of professional freedom; the unembarrassed relationship between doctor and patient. We were assured that no action of government would "ever stifle or destroy the liberty of the individual doctor", meaning of course that there never would be any such intention. In the provision of facilities the government is doing its share, and can point with justifiable pride to the stimulus of the federal health grants in the last five years. Nearly \$57,000,000 has been spent in hospital construction grants, and this has brought out corresponding provincial and local effort. Research and special health services, especially in the field of mental illness, have received generous support.

Reference was made to the latest grant towards establishing radiological and laboratory

services. The Minister made it clear that this type of grant was aimed at providing special services now deficient in certain areas, and in so far as this purpose is served we shall welcome it. The problems associated with its implementation, particularly the training of adequate numbers of personnel, have yet to be settled.

Even if the pattern to emerge from the governmental health program is not yet clear, it must be said that at no time has our Association's relationship with the government been more harmonious or their attitude more conciliatory. We fully appreciate the beneficial aspects of the health planning so far, especially in its gradual rather than precipitate establishment; at the same time we are striving to maintain our independence and proper recognition.

Editorial Comments

LONDON HOUSE

There are many Canadian doctors who have been visitors and residents at London House, and its name will certainly recall amenities of the most welcome nature.

This residential centre in London was founded in 1930 for the use of postgraduate men from all parts of the British Commonwealth and since then it has provided accommodation for thousands of visitors. It really is an expression of the desire to perform something of the duties of a host by the Motherland, for those seeking postgraduate education in Britain, and it is this element of thoughtfulness which is its outstanding characteristic. It has been said that London House is "neither a club nor a hostel, nor a college, but a little of all three".

Even with the best intentions, however, nothing can be carried on without money. Enough was collected to begin it, and the Nuffield Foundation especially gave a generous initial donation. But the inexorable pressure of economic changes is making it difficult for London House to continue to fulfill its purpose for the benefit of overseas students as it has done and would like to do.

One method by which help has been given is the "naming" of a room which is supported by a gift. Several such rooms have been given by various individuals and organizations in Canada, and plaques showing the donor are placed in each such room, bearing the inscription "This room has been given by . . . to strengthen the ties of citizenship within the British Commonwealth and Empire". But donations of any size would be most welcome. These gifts are recognized in Canada as being income-tax free. The Honorary Treasurer in Canada is Mr. F. E. Udell, 465 Avenue Road, Toronto.

THE HOSPITAL AND THE DOCTOR

The idea of the hospital being a family, with common interests, purposes and ideals, is well brought out in a recent short paper by Sister Loretto Bernard.* The dominating problem in any modern hospital is the continuously rising cost of hospitalization. Sister Bernard shows how much the doctor, quite apart from the administrator, can help in controlling this cost, and in doing so she manages to bring out the medical responsibilities very clearly. It is the sum total of these which is significant; unfortunately perhaps, any one or two of them alone may not seem of much importance. For instance, are all hospital admissions really necessary? Could not some cases be dealt with on an ambulatory basis? Decisions of this kind of course directly involves Blue Cross aspects; but the immediate point is the use of the hospital only when needed.

Even before admission a doctor can help by having patients report early. Some hospitals have preadmission forms whose completion is useful. After admission the small details begin to crop up. What tests or special examinations are essential, even if they are all paid for by the Blue Cross? Every unnecessary service by the hospital increases the over-all hospital cost. Drugs will of course be prescribed as needed, but they should not be kept up longer than is necessary, and their administration should be constantly checked. Requests for consultations should be made as soon as possible, and carried out equally promptly; patients may be forced to stay in hospital longer than is necessary by delays in this. If the date of an operation is altered immediate notification allows the gap to be filled. Diet manuals are prepared specially to guide doctors: their use should be more general. Arranging for donors for transfusion; realization of the shortage of personnel; conservation of supplies of every kind; trying to spread the load of elective cases throughout the year, to avoid the "summer slump" in bed capacity; completion of records promptly and accurately; all these are reminders of what can be done to help in hospital service and indirectly lower costs.

One may read much between the lines of Sister Bernard's paper. Listen to part of her peroration:

"If you realized fully that all of this is good for your private patients, you would make it your responsibility to direct residents and interns in caring for ward patients in the same way. . . . You would frown on lack of co-ordination, as when a man is admitted for elective surgery a week before the hospital can find a place on the operating room schedule, or when an operation is cancelled after the patient has been premedicated—and in some instances, anaesthetized—for surgery. You would not permit the misuse of x-rays, tests, antibiotics and other costly drugs. . . ."

"This matter of the education of the house staff is a serious responsibility. . . ."

*Report to the Medical Staff: Sister Loretto Bernard: *Hospitals*, 27: 85, 1953.

There is really more than medical economics in all this. The care of the patient is the main thing. So far as we fail in that so far we fail in our work. It is at the root of good public relations.

ANTIBIOTIC-RESISTANT STAPHYLOCOCCI AND RELATED INFECTIONS

In a recent comprehensive review on antibiotic-resistant staphylococci and related infections Dr. Frances Prissick* points out that there are two kinds of resistance to penicillin in staphylococci: one which can be induced artificially *in vitro*, and which is of a temporary nature, with a fairly rapid return to almost the previous state of sensitivity following transfers in penicillin-free medium. The other, which was first observed clinically, is due to the presence of a powerful inactivator called penicillinase. Strains of staphylococci containing this substance are "naturally" resistant to penicillin. Resistance of an infection to treatment with penicillin varies according to the amount and rate of production of penicillinase, and penicillin treatment of a heavy infection by staphylococci, which are highly resistant to the antibiotic, is almost useless.

An increase in penicillin-resistant staphy-

lococci following or during penicillin therapy may be the result of a selective process in which sensitive bacteria are destroyed while resistant ones survive and proceed to multiply. Staphylococci can also become resistant to other antibiotics than penicillin, and those concerned with carrier rates have found an increasing frequency of strains resistant not only to penicillin and streptomycin, but also to other antibiotics. It is generally thought that the increasing prevalence of drug-resistant strains of staphylococci is largely due to cross infection from carriers and clinically infected persons among hospital personnel and patients. These organisms have been isolated from nose or throat, skin and faeces, and have been recovered from dust, air and bedding on wards where the infections have occurred; spread to new hosts can take place by a variety of routes. Strict precautions and isolation can be of great value in combating cross-infection, which is of the greatest importance on infant wards.

When severe infections with antibiotic-resistant staphylococci occur, consideration may be given to the use of antitoxin, except in moribund cases. The tendency of staphylococcal infections, particularly furunculosis, to recur and become chronic, even after apparently successful antibiotic therapy, has led to the recommendation that staphylococcus toxoid be used for the prevention of recurrent infections.

B. L. FRANK

*Am. J. M. Sc., 225: 299, 1953.

MEN AND BOOKS

DERMATOLOGIC COMMENTARY IN ENGLISH LITERATURE

D. E. H. CLEVELAND, M.D., Vancouver

A WRITER in a recent number of *Science*¹ has remarked that "a few scientists, as spare time explorers of belles-lettres, amuse themselves by noting literary references to their specialties". The writer of this paper makes no pretence to be a scientist, but practises the Art of Medicine, which Art is dependent upon the knowledge of scientists in many fields. In my spare time exploration of belles-lettres, perhaps more accurately described as desultory reading in English literature, I have many times been diverted by the comments of poets, dramatists, essayists and novelists, on the skin and allied matters.

Some of them reveal close observation of the physical aspect of persons and personal habits, and keen perceptive powers. At times they make interpretations, perhaps intuitive, much in advance of those reached by their professional medical contemporaries. Indirectly they throw

much light upon some dark corners of modes of thought and action in their times. Again gross and ludicrous errors in the light of present knowledge have been reflected. Yet these views were usually those held by the writer's medical acquaintances.

A small selection from this commentary, restricted to English writers by considerations of time and space, although American literature and such foreign writers as I am familiar with are equally rich, seems to be of some historic interest, and as such is humbly offered to students of the history of medicine.

Many writers in attempting to present a character in an unattractive or repulsive guise have utilized cutaneous disorders or defects to heighten the effect.

Ned Ward in his *London Spy* depicting the sights of London at the close of the seventeenth century, as they appeared to and were described by a countryman, made many shrewd observations of this kind—"jovial, brutal, vulgar and graphic". Nevertheless his book has been considered to be "in many respects a trustworthy memorial of London localities and London manners." His description of rhinophyma is almost Brobdingnagian in its exaggeration, but it also

indicates that the treatment of this deformity has undergone little change in two centuries.

"... we met an Old Fellow with a Nose (Bless my Eye-sight) 't was as long as a *Rowling-Pin*, and I am sure as big at the end as a *Foot-Ball*, and beset with *Carbuncles* and *Rubies*; ... no *Oliver's* nose could have appear'd more Glorious; looking as fresh as the Gills of an *Angry Turky-Cock*. ... He's forc'd to have it par'd every full Moon, it grows so fast."

The carbuncles meant were obviously of the mineral variety, but it recalls Mark Twain's suffering from a carbuncle, and looking for the definition in the dictionary he found that it was "a precious jewel". Mark Twain considered that the man who wrote the dictionary had a perverted sense of humour.

In *Bleak House* Dickens frequently refers to the pimples on the face of the rascally solicitor, Mr. Vholes, which he was always picking, or "feeling the pimples on his face as if they were ornaments". George Chuzzlewit too, in *Martin Chuzzlewit*, "had such an obvious disposition to pimples, that the bright spots on his cravat, the rich pattern on his waistcoat, and even his glittering trinkets, seemed to have broken out upon him". Uriah Heep in *David Copperfield*, was, be it remembered, "a red-haired person ... whose hair was cropped as close as the closest stubble; who had hardly any eyebrows, and no eyelashes ..." and thus his creator described him as appearing as villainous as he undoubtedly was.

Byron had ideas of his own about acne, and evidently was familiar with its usual evanescent character, for in one of his short poems appear the lines

"If for silver or for gold
You could melt ten thousand pimples
Into half a dozen dimples"

Which he considered was obviously impossible, and that the labour would be wasted anyway.

In the days when unchecked syphilis produced characteristic disfigurements, the nose was an object of much solicitude. Not even Fracastorius excelled Shakespeare in such harmonious numbers as were put in the mouth of Timon²

"down with the nose,
Down with it flat; take the bridge quite away
Of him that, his particular to foresee,
Smells from the general weal: make curl'd-pated ruffians
bald."

Lord Chesterfield, with the same disfigurement in mind, wrote his son, using the phrase, "or a whoremaster with half a nose"; and again, "As to running after women, the consequences of that vice are only the loss of one's nose".

The Shakespearean reference to syphilitic alopecia has been noted above, but there are some lines in another of Byron's shorter poems which suggest that he may have been describing, not

without suspicions of his own, the greenish dinginess and desquamation of the facial skin which we older syphilologists regarded as of diagnostic significance. He is writing of a wicked and base-born woman risen to social position of which she is unworthy:

"A cheek of parchment ...
Mark, how the channels of her yellow blood
Ooze to her skin, and stagnate there to mud
Cased like the centipede in saffron mail,
Or darker greenness of the scorpion's tail."

Gummatous ulceration of the nose was known in Elizabethan as in modern times, but Ben Jonson was not ignorant, apparently, that other causes could produce ulceration.

"Nay, the hole in the nose here of some tobacco-takers, or the third nostril, if I may so call it, which makes that they can vent the tobacco out ... is caused from the tobacco, the mere tobacco! when the poor innocent pox, having nothing to do there, is miserably and most unconscionably slandered."³

Ben Jonson may have been describing cancer, but snuff has probably rightly been held accountable by several medical writers for perforation of the septum. The expression "tobacco-taking" formerly was applied alike to smoking or taking of snuff.

Smollett shows his familiarity with the syphilitic disfigurements of his day—the middle of the eighteenth century—and the pretentious lingo of the venereal disease quack. His own experience as a surgical practitioner in London fully qualified him to do this. The Doctor bragging to Uncle Matt Bramble in *Humphry Clinker* about his new arcanum was probably drawn from life. "Sir, I have lately cured ... a common prostitute, sir, who had got all the worst symptoms of the disorder; such as *nodi*, *tophi*, and *gummata*, *verrucae*, *cristae Galli*, and a *serpiginous* eruption, or rather a pocky itch all over her body.—By the time she had taken the second pill, sir, by Heaven! she was as smooth as my hand."

It is impossible to go so far back in written records that we cannot find a time when women did not use cosmetics, or men did not hold forth in self-righteous judgment upon this feminine practice. Literature thus is rich with such commentary. In Elizabethan times paint and paste were evidently laid on with a figurative trowel, and in a severely ascetic mood do we find young Hamlet voicing what may well have been Shakespeare's mind: "I have heard of your paintings too, well enough; God hath given you one face and you make yourselves another."⁴ But Viola, one of the few women in literature who remark on the superiority of beauty unadorned—but she spoke while caparisoned as a man—gazing upon Olivia's unveiled countenance delivers herself of this charming speech

"'T is beauty truly blent, whose red and white
Nature's own sweet and cunning hand laid on."⁵

And rare Ben Jonson gets in his blow:

"From pargetting, painting, slicking, glazing
and renewing old rivelled faces,
Chorus. Good Mercury defend us."⁶

This palinode was addressed to Mercury who figured in the piece, but Ben may not have been unaware of the bleaching properties of the mineral when used in cosmetic art, and introduced a sly *double entendre*.

The name of Lady Mary Wortley Montagu is remembered principally in connection with her introduction of smallpox inoculation into England, to which I shall refer later, but she deserves a better and wider acquaintance. She was one of those women appearing from time to time in history who appear to antedate their time. With her high degree of intelligence, freedom from unnatural restraint, independence of thought and action, self-reliance and sprightly humour, those who speak of her as a "modern woman" compliment the women of the Twentieth Century. Her husband's position as Ambassador to the Porte gave her exceptional advantages to develop her talents, which are evident in her wide acquaintance with prominent figures of both sexes in Europe, and her lively correspondence.⁷

Her experience with and comments upon the cosmetic practices in the Near East are in character. In a letter to Lady Rich (June 17, 1717) she writes:

"As to the balm of Mecca . . . I cannot, in conscience, advise you to make use of it. I know not how it comes to have such universal applause. All the ladies of my acquaintance at London and Vienna have begged me to send pots of it to them. I have had a present of a small quantity . . . and . . . applied it to my face, expecting some wonderful effect to my advantage. The next morning the change was wonderful; my face was swelled to an extraordinary size, and all over as red as my lady H—'s. It remained in this lamentable state three days. . . . I am told by the ladies here, that it is much mended by the operation, which I confess I cannot perceive in my looking-glass. . . . For my part I never intend to endure the pain of it again; let my complexion take its natural course, and decay in its own time."

Strange cosmetic practices still obtain in the East, some strongly repugnant to our tastes. Charles M. Doughty, whose *Travels in Arabia Deserta*, written in his curious Chaucerian-Elizabethan style and idiom, is a classic, wrote of the Beduins about 1876,

"They wash their babes in Camel-urine, and think thus to help them from insects . . . and in this water they all comb out their long hair, both men and women, yet sometimes bleaching their locks." (The nomad Fejir Beduins.) He also observed "In all Arabia both men and women, townsfolk and Beduins, when they may come by it, paint the whites of their eyes blue, with kohl or antimony".

Lord Chesterfield in his usual hard and cynical style briefly disposed of the cosmetic subject to his own satisfaction by the epigrammatic re-

mark "Women, who unfortunately have natural bad complexions, lay on good ones". But few others refrained from expressing their personal sentiments of contempt, scorn or pity at milady's perpetual pursuit of pulchritude—"penny plain, twopence coloured". Thus Austin Dobson:

"The ladies of St. James!
They're painted to the eyes;
Their white it stays for ever,
Their red it never dies;
But Phyllida, my Phyllida!
Her colour comes and goes;
It trembles like a lily;
It wavers to a rose."

Kipling seems to have echoed similar sentiments in his lines

"The blush that flies at seventeen,
Is fixed at forty-nine".

but I suspect that his fixed blush was that of menopausal rosacea rather than that of the rouge-pot.

And as for the popular delusions about the value of massaging creams into the skin, assiduously cultivated to this day by purveyors of fancy greases, Tennyson wrote stark realism which deserves thoughtful attention when he said

"Every face, however full,
Padded round with flesh and fat,
Is but modell'd on a skull".

Robert Browning too, master of the art of striking down pretentiousness, could be brutal in painting a picture of cosmetic self-delusion.

"I could favour you with sundry touches
Of the paint-smutches with which the Duchess
Heightened the mellowness of her cheek's yellowness
(To get on faster) until at last her
Cheek grew to be one master-plaster
Of mucus and fucus* from mere use of ceruse.†
In short she grew from scalp to udder
Just the object to make you shudder".

Keats, sometimes mentioned as a medical man who found fame in letters, shows that his slight medical knowledge was of little assistance to him in dermatologic observation, and writes as ignorantly as any layman ever did. His medical career indeed was brief and negligible. It lasted from the time he was apprenticed to a London surgeon at the age of 15 until medicine as a calling was abandoned by him at 21. His lines dealing with emotional blushing indicate experience rather than any trained psychological insight:

"There's a blush for won't, and a blush for shan't,
And a blush for having done it:
There's a blush for thought and a blush for naught,
And a blush for just begun it".

*Fucus—Paint or colour for beautifying the skin—a wash or colouring for the skin (O.E.D.).

†Ceruse—White lead.

Neither did knowledge or insight show in his remedy for—was it simple cheilitis?—or merely advised as a cosmetic aid?

"Fold
A rose leaf round thy finger's taperness,
And soothe thy lips."

Another with a thin veneer of medical education that preceded his success as a poet was Oliver Goldsmith, but his medical knowledge probably amounted to less even than that of Keats. There is no substantial evidence for his claim that he received a medical degree while strolling about in continental Europe, and he repeatedly proved his inability to hold any sort of medical appointment. His ignorance of all such matters and his credulity are of such magnitude that we cannot believe that he knew anything about the natural science of his time. He was unsparing, however, in his assaults upon the feminine habits of trusting to cosmetics to prevent or disguise disfigurement. In the tale related in his absurd poem *The Double Transformation* he tells how the young bridegroom found that his goddess was but of clay, inferior clay at that, and

"Found half the charm that deck'd her face
Arose from powder, shreds and lace".

Then when small pox had

"Left but the remnant of a face
In vain she tries her pastes and creams,
To smooth her cheek, or hide its seams".

But men also have not been wholly unconcerned with their skin and dermal appendages, and reflect in their writings interesting, and sometimes novel views. They have shown themselves as ready dupes as women. Loss of scalp hair, which after all has never been called the "crowning glory" of men, has much exercised them, and even today is a prolific source of income for various quacks and nostrum-vendors.

Yet, even Chaucer, well-versed in the learning of his time, revealed considerable insight into the true nature of masculine baldness, when he depicted the Monk in the *Canterbury Tales*:

"His head was balled, that shoon as any glas
And eek his face, as he had been anoint.
He was a lord ful fat and in good point". (i.e. fleshy)

Chaucer surely indicates here his familiarity with, if not his recognition of the causal connection between seborrhœal flux and virile alopecia, augmented by hearty appetite and consequent full habit.

Shakespeare certainly recognized the nature of virile alopecia: that it was physiologic and not pathologic, hence irremediable, when he made Dromio of Syracuse state categorically, "There's no time for a man to recover his hair that grows bald by nature",⁸ although it is open

to question whether the observation, "What he (*Time*) hath scanted men in hair, he hath given men in wits" holds true.⁹ Baldheaded numskulls are by no means uncommon. However, were our present populace convinced of the truth of the first observation, the hair-growing quacks who flourish so numerous and noisily today would either starve or be compelled to do honest work for a living.

The beard, another male secondary sex-character, has also occasioned no little concern among men of letters. Originally considered a sign of valour—we are familiar with such phrases as "bearded like the pard", and the "noble excrement of Mars"—it has in modern fashions been regarded only as a nuisance, or a matter for regulation, or indicating profession or military rank. Byron fulminated against it rather inordinately in familiar lines:

"men for their sins
Have shaving too entail'd upon their chins,—
A daily plague, which in the aggregate
May average on the whole with parturition".¹⁰

Today when military regulations do not forbid officers and men to shave the upper lip, the oft-repeated epigram of Kipling's young lady "being kissed by a man who didn't wax his moustache was—like eating an egg without salt", has lost its point.

Dr. Johnson, ever curious about minutiae, was curious also in his observation of the hair and nails, and Boswell recounts how on one occasion he shaved the hair from areas on his right arm and right breast in order to observe the rate of growth on these parts. On another occasion he accidentally shaved off a portion of his nail, and measured to an eighth of an inch to observe the rate of growth of this appendage. He thus antedated by nearly two hundred years similar researches on rates of hair and nail growth which have been carried out in the last thirty years.

But the barber may be on his way back to a position in the social world much higher than that which he occupied when he, as a barber-surgeon, was regarded but as a menial by his medical betters. H. G. Wells, in one of his scientific-political romances put the future practitioner into an exalted position and invented a title for him even fancier than "tonsorial artist".

"A capillotomist—precisely. He is one of the finest artists in the world. . . . The capillotomist came forward, examined Graham's ears (*Graham had but just awakened into the twenty-first century after a sleep of over two hundred years*) and surveyed him, felt the back of his head, and would have sat down again to regard him. . . . Forthwith with rapid movements and a succession of deftly handled instruments he shaved Graham's chin, clipped his moustache, and cut and arranged his hair. All this he did without a word, with something of the rapt air of a poet inspired".¹¹

Fielding's barber—Little Benjamin—was like many of his profession today, talkative and a practical philosopher. "Sir," said he, 'since I have

dealt in suds, I could never discover more than two reasons for shaving; the one is to get a beard, and the other to get rid of one."¹² Dr. Johnson's meticulous measurements and calculations of the rates of hair and beard growth contrast with the clumsy guess-work of Jonathan Swift's pretended observations of the skin in his amusing satirical tale of *Travels into Several Remote Nations of the World*, popularly known as "Gulliver's Travels". He did not work out his proportions by any exact scale, although he probably deliberately exaggerated to heighten the contrast between the size of Dr. Lemuel Gulliver and that of the tiny men of Lilliput or the giants of Brobdingnag. Yet Wells was able to accomplish this impression of huge proportions of his humans by simpler and more accurate and equally graphic means in his *Food of the Gods*. Swift, for instance pictures the breast of the Brobdingnagian nursing mother—"prominent six feet . . . not . . . less than sixteen in circumference" as being "so varied with spots, pimples and freckles, that nothing could appear more nauseous". He then goes on to explain that the fair skins of English ladies, although apparently beautiful would "by experiment", if seen through a magnifying glass, "the smoothest and whitest skins look rough, and coarse, and ill-coloured". He supports this by stating that the skins of the diminutive people of Lilliput appeared to him "the fairest in the world". His imagination carries him still further when he relates that the skins of the maids of honour at the court of Brobdingnag gave off a most offensive smell. He explains, "I conceive that my sense was more acute in proportion to my littleness", which is quite at variance with ordinary human experience.

Swift also drew heavily on his imagination to describe a cancer—with which he was ordinarily probably quite inexperienced—of the Brobdingnagian breast. It was full of holes "in two or three of which I could easily have crept". He also should have been completely and finally suffocated by the fearfully noxious effluvium, had he remembered to be consistent. It was a pretty thought too, to tell of a corn cut from a maid of honour which he, the surgeon, hollowed out into a cup which he had set with silver. He justly concludes by saying that it is "a very common infirmity of human nature, inclining us to be more curious and conceited in matters . . . for which we are least adapted either by study or nature".

With people of other times, as is the common case today, the notion was prevalent that skin disorders were not only for the most part contagious, but also an indication of uncleanly personal habits, and readily aroused feelings of repulsion and disgust in the sufferer as well as those about him.

Sir Walter Scott exemplifies barbarism and uncouthness by the lines

"King Modor and Rhys came from Powis and Wales,
Unshorn was their hair, and unpruned were their
nails",¹³

These wild men from the Outer Marches were probably of "those who worship dirty gods"¹⁴ whom Shakespeare mentions.

In frolicsome mood of disgust Burns exclaimed, when he spied a louse on a lady's bonnet in church,

"O for some rank mercurial rozet
Or fell red smeddum,
I'd gie you sic a hearty doze o't
Wad dress your droddum!"

Boswell also was almost as much concerned over what he feared may have been scabies in his own person as he at another time was when he discovered, not for the first time, that he had contracted gonorrhoea. In his *Journal of A Tour to the Hebrides with Samuel Johnson, L.L.D.* he writes that on one occasion he "perceived several red pimples or rather blisters on the palm of my right hand, which were hot, painful and itchy; but I was assured it (the itch) never began so. . . . The horror of having so vile a distemper made me shudder".

After the great pox, or pox, as syphilis was familiarly called, the great plague of Europe and the Near East, until the nineteenth century was the small pox, and it is evident that it had been claiming its victims by the thousands yearly for centuries before the reputed introduction of syphilis from the New World.

Strangely, it was not invariably regarded with fear and loathing, probably because nothing could be done about it, and when one had it and survived one "had had it", and might regard its scars with philosophic resignation. Thus Fielding describes a young man in *Peregrine Pickle*, "the scars of the small-pox, of which he bore a good number, added a peculiar manliness to the air of his countenance".

But the name of Lady Mary Wortley Montagu is forever associated with the first attempt to introduce prophylactic methods against the disease into Europe. Writing to "Mrs. S.C." from Adrianople on April 1, 1717¹⁵ she says:

"The small-pox, so fatal, and so general amongst us, is here entirely harmless by the invention of ingrafting, which is the term they give it. There is a set of old women who make it their business to perform the operation every autumn . . . the old woman comes with a nut-shell full of the matter of the best sort of small-pox, and asks what vein you please to have opened. She immediately rips open that you have to offer her with a large needle . . . and puts into the veins as much matter as can lye upon the head of her needle, and after that binds up the wound with a hollow bit of shell. . . . The children or young patients . . . are in perfect health to the eighth (day). Then the fever begins to seize them, and they keep their beds two days, very seldom three. They have very rarely above twenty or thirty in their faces, which never mark; and in eight days they are as well as before their illness. Where they are wounded,

there remain running sores during the distemper, which I don't doubt is a great relief to it. . . . There is no example of any one who has died in it, and you may believe I am well satisfied as to the safety of this experiment, since I intend to try it on my own dear little son".

While it is entirely possible that septic infection often was introduced, and other diseases, including syphilis, were often contracted in this manner, it is to be remembered that these diseases were common enough and accepted complacently as being in the natural order of things, and the "engrafting" or inoculation of small-pox without doubt was in a high degree efficacious and a boon to Europe until it was supplanted by the safer Jennerian method of vaccination.

One hundred and fifty years later Doughty, whose *Travels in Arabia Deserta* has already been referred to, speaks of the fear of the small-pox among the Beduins, and their asking for vaccination. He also mentions meeting an "amateur leech" who had inoculated all the children of the town. But he confessed that many had died, and "he had read that in the cow-pox inoculation of the Nasâra (*Nazarenes, i.e. Christians*) there die not any". Doughty was without medical qualifications; but by reason of his carrying a small stock of drugs as he travelled with the caravans, and giving medical help when he could, he had been dubbed "el Hakkim" by the Arabs. He made many observations of skin disorders, described what he called "morbus gallicus" but which may have been bejel; called what was evidently simple and harmless leucoderma "a sudden kind of leprosy", and noted the dermatitis produced by contact with sap of wild fig trees, of which the French in Algeria write so frequently in their dermatologic literature today.

Jonathan Swift may have let his imagination betray him into woeful inaccuracies, as I have already mentioned, but when it came to describing his own malady he gave a very graphic and convincing account.

In his *Journal to Stella* he first writes on March 29, 1712, of being

"plagued with these Pains in my Shouldr—: I Believe it is Rheumatick". Next day he writes "the Pain has left my Shouldr and crept to my neck and Collar bone". In letters between March 31 and April 8 he describes the progress of his affliction: "The Pain encreased with mighty violence in my left Shouldr and Collar bone, and that side of my neck. On Thursday morning appeared great Red Spots in all those places where my Pain was, and te Violence of te Pain was confined to my Neck behind a little and on te left side . . . te spots encreased every day and bred little Pimples which are now grown white and full of corruption, . . . most prodigious hott and inflamed. The disease is te Shingles. . . . The Doctors say it would have ended in some violent Disease if it had not come out thus. I shall now recover fast. I have been in no danger of Life, but miserable Torture". Again he writes on April 24, "afterwards where my Pain were a cruell Itching seised me beyond what I ever could imagine, and kept me awake severall Nights. Then it grew into three or for great Sores like Blisters and run; at last I advised te Dr to use like a Blister, so I did, with Melilot Plaisters. . . ."

Still it troubles him and on May 10 he writes Stella:

"My Pain continues still in my Shouldr and Collar. I keep Flannel on it, and rub it with Brandy; and take a nasty dyet Drink. I still Itch terribly and have some few pimples: I am weak and Sweat, and then the Flannel makes me red with Itching; but I think my Pain lessens. . . . Te Drs sd they never saw anything so odd of the kind; they were not properly Shingles, but Herpes miliaris and 20 other hard names. . . . My left Hand is very weak and trembles; but my right hand has not been toucht".

Thus we see that doctors' "face-saving" tactics are not very different today from what they were in 1717. Swift's shingles, as may have been expected, for he was fifty years old, continued to give him some pain, and it was not until June 17 that he told Stella that although he felt constant pain in his "shouldr" he felt he could consent to cut some slices from his Flannel. It was true of Dr. Jonathan Swift as Shakespeare observes

" . . . there was never yet philosopher
That could endure the toothache patiently".¹⁵

Modern writers do not divert themselves or their readers so frequently with the skin and its concerns, but as might be expected, when Rudyard Kipling turns his attention upon it, he tells a story about some dermatologic episode and not only goes at it with a gusto but with amusing effect and plenty of the professional jargon with which he familiarized himself. He wrote one "horror story" however which suggests that his acquaintance with leprosy was remarkably slight, in fact his ignorance of its common appearance was as great as that of the general public from Mosaic times to our own. In his *The Mark of the Beast*¹⁶ he says of his leper "his body shone like frosted silver . . . he had no face, because he was a leper of some years' standing". I suspect Kipling had heard and misunderstood a word dropped casually about the "silvery scale" of psoriasis, which after all was in earlier centuries confused with leprosy, even bearing the learned appellation *lepra græcorum*. It is a good story none the less.

*Beauty Spots*¹⁷ is a deliciously funny story in which Kipling showed familiarity with some popular lay and medical notions about skin eruptions. An epidemic, characterized by the appearance on the skin of large "orange and greenish-copper blotches", in a small village, and appearing also on the skin of persons from other parts who had briefly sojourned there, had developed. The panel-doctor proceeded with the usual modern interrogation, "where they had been and what they had eaten. They had, it seemed, been in ever so many places, and by the way had eaten everything in Leviticus and out of it". There was no temperature "but no end of scratchin'" and it became front-page news, popularly dubbed "Bloody Measles", probably

because of its non-morbilliform character and the fact that it was neither bleeding nor ecchymotic. The story of how an enormous white sow led to the dénouement and to the discomfiture of the village snob is too good to spoil by explanations in this place.

What can happen to a greedy rhinoceros snugly buttoned up in his nicely fitted skin, which he could take off when he went bathing in the Red Sea, who stole and ate the Parsee's cake, is the subject of *How the Rhino Got His Skin*,¹⁸ one of those stories written by Kipling ostensibly to amuse children, and best appreciated by grown-ups. The Parsee revenged himself by rubbing the temporarily untenanted skin full of cake-crumbs, currants and all, and what happened when Rhino resumed his skin after his dip may be the true explanation of how Rhino's skin got rubbed up into rolls and bags, and why Rhino has such a bad temper—or it may not.

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MEDICAL ECONOMICS

THE CANADIAN PATTERN
OF HEALTH PROGRESS*

THE HONOURABLE PAUL MARTIN,†
Ottawa

1. FOUR CHALLENGES TO CANADIAN MEDICINE
WHEN I SPOKE to the Canadian Medical Association in 1948, the late Prime Minister had just announced Canada's National Health Program. I took that opportunity to emphasize the vital importance of the new federal health grants to the members of the Canadian medical profession. Then in Halifax two years later, I attempted to look ahead and survey the future directions of health progress in Canada and, at the same time, to indicate the increasing rôle of the private

physician in preventive medicine and public health.

Today I thought it might be appropriate to look back over the National Health Program from the perspective provided by its first five years of operation to see just how far we have come and to assess some of its implications for the doctors of this country. Before doing so, may I say a word about certain issues presently facing the Canadian medical profession.

It seems to me that there are four problems whose solution calls for the very closest co-operation between governments, voluntary agencies, professional associations and private practitioners themselves. These are today's challenges to Canadian medicine:

(1) To maintain the high standards of practice for which the Canadian medical profession has won worldwide recognition; (2) To provide individual physicians with the facilities and services they need to serve their patients most effectively; (3) To maintain professional freedom; (4) To ensure that no barrier comes between doctor and patient.

1. *High standards of practice.*—In medicine, as in other professions, maintaining a high standard of practice is a continuing problem. Unlike most vocations, the end-product of medicine is service, and the relationship between doctor and patient is based on trust rather than on any written contract or agreement. This is one problem that can only be met—and is being admirably met—by the profession itself through its professional associations, its medical schools and through the efforts of individual practitioners.

The Canadian medical profession has established a most enviable reputation for ethical conduct, skilled treatment and devoted service. I am sure that the doctors of this country will never permit pressures from within or without to cause any deterioration in the high standards of medical education and medical practice which they have built up over so many years.

2. *Providing the facilities.*—A second problem is that of establishing adequate facilities and services to enable the doctor to provide his patients with the kind of care he is trained to give. With the growth of medical science, the doctor has become increasingly dependent on the hospital, laboratory, diagnostic and other facilities and services available to support him in his work.

This is one place where governments can help—in a very tangible and concrete way. And governments are giving very substantial help. Since the National Health Program began, the nearly \$100,000,000 spent by the Federal Government in support of provincial and local health projects has been a direct investment in the health of the Canadian people. But it has also immeasurably strengthened the services with which the private medical practitioner must work. I shall provide illustrations of this a little later on.

*An Address to the Annual Meeting of the Canadian Medical Association, Winnipeg, June 19, 1950.

†Minister of National Health and Welfare.

3. *Professional freedom.*—One of the distinctive features of democracy is the extent of professional freedom it permits. Here in Canada, I am proud to say, our doctors, dentists, lawyers and other professional men feel no rigid, state-imposed restrictions other than those normal safeguards of society which affect and protect every citizen.

I can assure you that no action taken by the present Government will ever stifle or destroy the liberty of the individual doctor. The only proper limitations on professional freedom are those ethical considerations imposed by conscience and professional custom which every doctor accepts as part of his responsibility as an exemplar of Hippocrates.

4. *Doctor-patient relationships.*—The fourth problem facing the medical profession is to make sure that no barrier is allowed to develop between doctor and patient. Physicians are naturally anxious to see that nothing in the evolution of our society should come between them and adequate care of their patients. They rightly insist that no change in our pattern of health care should disturb the traditional doctor-patient relationship. But it is evident to all that, as medical services have improved, they have become more and more expensive. The better that medical care has become, the more its costs have gone beyond levels that low-income families can afford.

We do not want to see any barriers imposed between doctor and patient, as that would only lessen the doctor's effectiveness and the patient would inevitably suffer. But neither can we blind ourselves to the fact that a barrier does exist today—the increasing inability of many families to afford the health care they require.

The problem of working out a method of sharing the costs of illness on a sound and equitable basis that is consistent with our constitutional and professional traditions is a matter that is receiving careful and continuing study by the Government. I suggest that it is a problem which should engage the attention of every member of the medical profession, for in all that concerns health the doctor should be a leader in planning for progress. It is encouraging to know that the C.M.A. is giving these vital questions the serious consideration they so obviously deserve.

2. FEDERAL GRANTS IMPROVE HEALTH FACILITIES

I referred a moment ago to the importance of developing health services and facilities so that doctors might use their professional skills and knowledge to the very best advantage. Much has already been done in this connection by provincial governments, voluntary agencies and medical practitioners themselves. To strengthen these efforts, one of the major objectives of the Federal National Health Program has been to

make it possible for the doctor to serve his patients most effectively.

Under the stimulus of the federal health grants, Canada has done more in the past five years than at any previous time in its history to bring its health services to more adequate levels. By encouraging and assisting the building of new hospitals; by establishing new clinics and services; by training specialized health workers; by making it possible for provincial and local health departments to employ needed professional staff; and by accelerating research activity; we have attempted to fill the gaps in existing programs and to make health services widely available on a more equitable basis across the country. Let me give you a few illustrations of how this federal program has directly benefited the medical profession.

(a) *Increased hospital facilities.*—Perhaps the most dramatic and most easily measurable achievement of the National Health Program has been the tremendous push it has given to hospital construction. I need not underline the importance to practising physicians of adequate hospital facilities, particularly in the more sparsely-populated parts of the country. In modern medical practice, the special skills of the doctor cannot find full expression without access to proper hospital services.

Since 1948, federal funds expended or committed for approved projects under the Hospital Construction Grant total nearly \$57,000,000. This means an increase in patient accommodation of nearly 47,000 beds; 5,900 additional bassinets for infants; and 5,700 more beds in nurses' residences. In view of the increased emphasis on preventive medicine, the very notable expansion in the laboratory and out-patient services of hospitals provided through the grants is of particular interest to physicians. It should be remembered that this is not merely a federal program but a great co-operative undertaking. Federal participation has only served to strengthen and support provincial and local effort and initiative.

(b) *Great increase in medical and public health research.*—For many of the final answers to his problems, the medical practitioner must wait on research. Men like Banting, Best, Collip, Selye and other Canadian medical scientists have earned world-wide renown for their research achievements. While impressive contributions have been made year after year by the great research foundations, the provincial governments, private industry, the voluntary health agencies and the universities, the outstanding feature of health research today is the increasing recognition and support it is receiving from the Federal Government. For some years now, a number of federal agencies—including the National Research Council, the Defence Research Board, and the Department of Veterans' Affairs—have been active in this field.

During the past five years, there has been a remarkable increase in many areas of medical

and public health research because of the additional funds provided for this purpose from the National Health Program and from other federal sources. Under this Program, well over 200 major health investigations are now underway. Important studies have been made of the properties, use and production of ACTH and Cortisone. Other noteworthy projects include a study of the preparation of gamma globulin for the treatment of polio and a number of investigations into the cause and cure of tuberculosis, cancer and mental illness. Many of these research studies also fill a useful educational purpose.

Support for Canada's total health research effort through all federal agencies now amounts to some \$3,000,000 a year.

(c) *Special health services.*—To combat special health problems such as cancer, tuberculosis and mental illness, the National Health Program has been instrumental in establishing new services and extending those already in existence. With better diagnostic, treatment and rehabilitation facilities available to him in these special fields, the general practitioner can work with greater confidence than ever before. These services help to bring doctor and patient together early when there is the greatest chance of successful treatment and cure.

For example, federal funds of more than \$7,800,000 have already been invested in the fight against cancer. Since this is a matching grant, the provinces have also spent as much or more than this. To fight tuberculosis, 21 new mobile clinics have been organized and a nationwide hospital admission chest x-ray program inaugurated to discover cases in their early and curable stages. For this, and to provide more scientific equipment, surgical facilities and to support rehabilitation, \$5,560,000 has been spent. The B.C.G. immunization of 500,000 infants; the expenditure of more than \$2,270,000 for drugs and treatment; and the improvement of sanatorium care have been vitally important factors in reducing Canada's tuberculosis death rate, which has been cut in half in the past five years.

In the field of mental illness, the whole outlook has been dramatically altered in the past five years. Here again, the federal health grants have helped significantly. For example, there are now 77 mental health clinics in Canada, most of which are supported in whole or in part through the federal Mental Health Grant. In 1948, there were only 17 in all of Canada. Large numbers of mental health workers have been trained. In every province improvements have been effected in the care and treatment given in mental hospitals.

The National Health Program has been a significant factor in making some of Canada's mental institutions models of their kind for this continent. For example, federal grants totalling

more than \$500,000 have been approved for the Selkirk Mental Hospital in this province which recently won the American Psychiatric Association's top award for achievement in mental hospital service.

3. NEW RADIOLOGICAL AND LABORATORY SERVICES GRANT

Of special interest to medical practitioners in all parts of Canada is the new Radiological and Laboratory Services Grant which I announced last month as part of a three-fold extension of the National Health Program. The purpose of this new grant is to give added support to the provinces in developing improved facilities and services to assist physicians in the early and accurate detection of disease and ill-health. I need not impress upon members of this group the importance of providing more extensive x-ray, laboratory and other diagnostic facilities so that medical practitioners may be able to provide the best possible service to the people under their care. Every doctor is well aware that many of these specialized facilities are expensive and of a very technical nature and cannot easily be provided by the practising physician himself.

A long-standing problem that every doctor has had to face is the necessity of placing in hospital patients who do not require hospitalization, simply because specialized diagnostic facilities do not exist elsewhere. It is our hope that this grant will help to make laboratory and x-ray facilities and services more widely available for the diagnosis of illness outside of hospital or in outpatient departments of hospitals. In so doing, it will be of inestimable benefit to doctor and patient alike.

Another important objective of the Radiological and Laboratory Services Grant is to encourage a better-balanced distribution of doctors, specialists and other medical personnel across the country. I am sure that every member of the C.M.A. appreciates that one of the major reasons why more doctors do not settle in certain parts of Canada is that facilities are frequently lacking for the practice of the kind of medicine they are being taught in medical schools today. This situation can only be remedied through the judicious extension of laboratory, x-ray and other diagnostic facilities and services to supplement those now in existence in the smaller hospitals.

Let me again stress the importance in all of these developments of maintaining the personal relation between doctor and patient. Neither in this new grant—nor in any other federal health plan—is there any thought of regimentation or centralization of personal health services. *The real purpose of this grant is to enable the private physician to serve his patients better.* In so doing, it will help to bring the latest techniques of medical science into the service of the whole Canadian people.

4. LEADERSHIP OF THE MEDICAL PROFESSION

Through the National Health Program sound foundations have been laid for future progress. With the aid of these grants, we have learned more about our health needs; we have built up our health facilities and equipment; we have been able to employ thousands of needed health workers and to provide training for other thousands; and we have vastly speeded up research activity. All of these activities intimately affect the doctor and significantly widen the scope of his work.

While government action is important, much praise for our unparalleled health progress in recent years must unquestionably go to Canada's distinguished medical profession. Our health services rest solidly on the foundations that physicians and members of the other health professions have so firmly laid. Governments have brought needed support in neglected areas of activity, but they can never replace the enthusiasm and effectiveness of the private health worker.

The object of any government health program should be to *strengthen* not to *supplant* the work of those most immediately responsible for health.

In helping to bring better health to its citizens, a government must look to the medical profession for leadership. Without your confidence and collaboration no new health program can hope for success. And here, I want to say that, from the very beginning, we have enjoyed the fullest and friendliest co-operation from the Canadian Medical Association, its various special divisions, and from individual members of Canada's medical profession. This is as it should be, for there is no reason for divergence of opinion between two groups who share the same objective—the provision of the best possible health care for the Canadian people.

We hear a good deal about what has been done, or is being done for health in other countries. Well, other countries are beginning to hear about what we are doing in Canada! In the House of Commons, I recently quoted the words of a distinguished medical authority from the United States, Dr. J. H. Means, for many years Professor of Medicine at Harvard University. This is how Dr. Means commented in *The Atlantic Monthly* on the new expansion of our federal health program:

"It appears that nation-wide searching for better ways to bring health to all the people, particularly with reference to the rôle of government therein, is far more in evidence in Canada than it is in our own country."

5. THE CANADIAN PATTERN OF HEALTH PROGRESS

In our health planning, Canada has not sought to imitate any other country. We study their programs; we benefit from their experience; we

try to avoid their mistakes. But, in the final analysis, we must chart our own course in the light of our own peculiar conditions and needs. What we are trying to do is to build a sound structure of health services that will preserve the traditional doctor-patient relationship; that will give maximum freedom of choice to the individual; and that will maintain the constitutional balance of governmental responsibilities. Of course, too, we must at all times consider the capacity of the individual and of the nation to sustain each added burden.

The development of our health program has been gradual, responsible, always within the limits of our means. There are some, of course, who would have us rush headlong into reckless and irresponsible programs in complete disregard of the considered views of the medical profession or of the expressed wishes of the provincial governments. I believe that our approach in tackling this problem in a reasonable and sensible manner is not only consistent with our traditions and customs and within our financial capacity, but will, in the long run, prove to be the wisest course.

I am sure that in the years ahead, when we look back on the development of Canada's National Health Program, when all the obstacles and difficulties have been largely swept aside, when the best of health care is more readily available to everyone, we will recognize the wisdom of our steady, consistent and dynamic approach to this problem in Canada. Canada has learned a lesson from those countries where irresponsible enthusiasm, inadequate planning, or even political expediency, have led them into precipitate and ill-considered action in the health field. Above all, in this country we are keeping alive those intangibles of medical progress—professional freedom, high standards of competence and the doctor's unerring instinct for selfless service.

Obesity is a subtle but serious health hazard. As a rule, it develops gradually. The psychologic background and motivation resulting in an excessive food intake may vary widely, but food is either a genuine source of pleasure, or it serves as a substitute for other unsatisfied cravings. In either case the dietary treatment, almost unavoidably associated with some discomfort, is likely to be resented by the victim trapped in his or her own fat. A clear understanding of the medical dangers of obesity, in addition to the esthetic impulse, should help to motivate the patient during the course of weight reduction as well as during the subsequent months and years. Persistence in eating a low-calorie diet, nutritionally well balanced, may tax the individual's self-discipline more severely than the heroic but relatively brief period of weight reduction.—*Nutrition Reviews*, May, 1953.

ASSOCIATION NOTES



A group of past presidents, with Dr. C. W. Burns, president for this year, taken at the Annual Meeting in Winnipeg, June 17, 1953.

Front row (left to right): H. B. Church; C. W. Burns; Harris McPhedran; Wallace Wilson, D. S. Lewis; (at back): J. F. C. Anderson; Norman Gosse.

TRANS-CANADA MEDICAL PLANS*

E. C. McCOY, M.D., *Vancouver*

Members of the Commission, Administrators and Guests:

IT IS A PLEASURE to welcome you to this—the 6th meeting of T.C.M.P. Commission. It is an even greater pleasure to welcome you to this meeting in Manitoba—which really is an ideal meeting place for any organization that is Canada-wide—because Manitoba is both east and west. We in the West consider Manitoba part of the east—most Easterners consider Manitoba part of the west. It is thus in a very happy position to help weld east and west together—and I believe it was very fortunate that the first Chairman of this Commission was Manitoba's representative—Dr. Pat McNulty—who very ably guided us through the first year of organization. It is thus most appropriate that our meeting should be

held here and we hope that it will be a fruitful one.

We have now come to the end of the second year since the formation of T.C.M.P. They have been two years of planning and organizing—and meetings for exchange of ideas. Two years ago we decided that we needed T.C.M.P. but hadn't too much idea of exactly what it would do, or what shape it would take. We knew only that it would help provide prepaid medical care for the people of Canada on a voluntary basis. At that time only six provinces were represented with seven plans participating. Now seven provinces are represented with nine plans participating and applications pending which will cover two more provinces, so there is a good possibility that by the end of this meeting we will have nine provinces represented in T.C.M.P.

Also we are now ready to move from the planning stage of T.C.M.P. into the actual operational stage. Within the next month we will be establishing a head office in Toronto, and we will also have a full time Executive Director: up until now he has been on a part time basis only. We know

*Chairman's address at the June, 1953 meeting of Trans-Canada Medical Plans in Winnipeg.

now the shape T.C.M.P. will take, at least at the start—the head office and Executive Director will function as a co-ordinator between the various plans. Actual coverage of patients will remain on a local or provincial level with T.C.M.P. acting as a co-ordinator in handling national accounts, in collecting and presenting statistics, and in gradual encouraging development of a more uniform type of coverage across Canada.

In selling any product or arranging for the provision of any service, you need three basic things: (1) A demand for the product. (2) A method of handling the product, that is, to arrange for production and payment. (3) A method of producing the product, or in the case of a service you need someone to produce the service.

In looking at the problem of T.C.M.P. and provision of prepaid medical care I'm sure that we are now at the stage where the demand for the service is already there. We don't have to sell the service; the people want it and are demanding it.

In looking at the second point, our voluntary non-profit prepaid care plans as under T.C.M.P. certainly give us what we believe to be the best method of handling the service.

The third point is the one I wish to emphasize, that is, someone to produce the service. Certainly as an organization the Canadian Medical Association is behind these plans 100%. However, it is just as certain that all doctors are not behind them 100% and I believe that is a point we must consider very seriously.

If a doctor is going to produce a service that is good and efficient he must like the service and to do that he must have good working conditions; he must be adequately remunerated and he must not have to spend too much time on red tape, etc.

We have to spend some effort on convincing doctors that this system of providing medical care is best for them, as well as for the patients. There may be some parts of the work they may not like—certain rulings and red tape may annoy them—but they must realize that the overall system is good. We should work very closely with C.M.A. in some good public relations with the doctors of Canada in this respect. We believe it is the plans' responsibility to acquaint the doctors with the details of coverage and terms of service of the individual plans, but it certainly should be the profession's job to acquaint the doctors with a proper understanding of what are the best basic principles of prepaid medical care and why voluntary non-profit prepaid medical care is better from both doctor and patient's point of view.

We can set up the best prepaid care plan in existence, but if the doctors providing the service are not convinced of its merits they will not

be behind it, and if they are not behind it the plan cannot succeed.

The plan must learn how to control its abuses and occasional dishonesty—by either patient or doctor—and it must do this in a firm and definite manner, and yet not in a way that makes a rule which penalizes all the honest participants. I believe there is considerable work to be done to persuade or demonstrate to doctors that this is the best way to provide prepaid medical care, that is, that it will provide more and better medical coverage, at a lesser cost and with better working conditions than any other system will. If we believe this then we should all be behind it. If we don't believe it then we should be backing some other plan which we believe would be better. I believe that most of the objections that we do hear are from people who are being destructive rather than constructive. They do not know of any other method that is better, but they dislike the little inconvenience or bits of red tape in which they become involved, and as a result they criticize the whole system without having anything better to offer.

We need to work together and iron out small inconveniences or differences of opinion, but at all costs retain proper perspective and back the plans as a whole and make them work.

At the last meeting—in January—we attempted to point out where T.C.M.P. can fit into a national health insurance plan for Canada, and I believe we should attempt to retain some perspective of this in our deliberations here.

During the next two days, we have several important matters or problems to discuss. It is hoped that favourable consideration will be given to applications for coverage for two more provinces through T.C.M.P. and if so that would then mean that all provinces would be represented except Newfoundland and we would be well on the way to having truly national coverage.

PROGRESS REPORT

In Winnipeg, Quebec Hospital Service Association and Maritime Hospital Service Association were taken into full membership in Trans-Canada Medical Plans for coverage in Quebec, Prince Edward Island and New Brunswick.

This means that Trans-Canada Medical Plans now offer a truly national coverage in Canada through its member plans. There are doctor-approved plans in every Province except Newfoundland at the present time.

The head office has been opened in Toronto and a full-time Executive Director, Mr. C. Howard Shillington, formerly Executive Director of Medical Services Incorporated, Saskatoon, has taken over at that time.

The Officers elected at the Commission Meeting are as follows: Dr. E. C. McCoy, Vancouver, B.C., Chairman; Dr. H. H. Lees, Windsor, Ont.,

Vice-chairman; Dr. R. M. Parsons, Red Deer, Alta., Honorary Secretary; Dr. S. A. Orchard, Saskatoon, Sask., Honorary Treasurer; Dr. H. E. Britton, Moncton, N.B., Member at large of the Executive.

Other members of the Commission are as follows: Dr. P. H. McNulty, Winnipeg; Dr. G. C. Ferguson, Port Arthur; Dr. I. W. Bean, Regina; Dr. N. H. Gosse, Halifax. A representative from Quebec is still to be named.

All in all a very successful meeting was held in Winnipeg and it is felt that good progress has been made in T.C.M.P. To date as after two years we now can supply coverage on a national basis.

MEDICAL SOCIETIES

SAINT JOHN MEDICAL SOCIETY

The annual dinner meeting of the Saint John Medical Society was held at the Riverside Golf and Country Club on May 21, 1953. Dr. J. A. Finley presided and the speaker was Prof. Roy Fraser, Head of the Biology Department at Mount Allison University, his subject "Education and Medicine". Dr. Fraser has been interested in preparing pre-medical students for their life work in medicine for many years and his affection and respect for doctors persists in spite of what he has endured at the hands of many physicians. It has been his pleasure to follow many doctors from their introduction to pre-medical basic sciences to their clinical years and into practices. The speaker denied putting doctors on a pedestal because he was sure they would desert such a position to answer the telephone or any call for relief of pain or distress. Humorous references to answers culled from examination papers enlivened this very interesting address which proposed repayable scholarships rather than straight gifts and greater emphasis on good general practitioners. Dr. Fraser acknowledged to be a great teacher from one of the Maritimes' great Universities, admitted that the survey of each new class was still a great challenge to the teacher in estimating the quality and potential of each student after more than thirty years of endeavour. His audience expressed their delight at his message about doctors to doctors.

SOCIETY OF OBSTETRICIANS AND GYNÆCOLOGISTS OF CANADA

The Society of Obstetricians and Gynæcologists of Canada held their ninth annual meeting at the Thousand Islands Club, Alexandria Bay, New York on June 5, 6 and 7.

Dr. Tew of London, Ontario, President of the Society acted as Chairman. Dr. Aldridge of New York was Guest Speaker of the scientific session. Judge Kessinger of New Jersey was the Guest Speaker at the annual dinner. Dr. W. G. Cosbie of Toronto was presented with the annual Society award for his outstanding contributions to Obstetrics and Gynæcology.

The new executive elected is as follows:

President—Dr. W. G. Cosbie, Toronto, Ont.; President-Elect—Dr. G. White, Saint John, N.B.; Vice-president—Dr. Rennie Simard, Quebec City; Secretary—Dr. R. Meiklejohn, Toronto, Ont.; Treasurer—Dr. B. Best, Winnipeg, Man.; Members of Council—Dr. L. Gérin-Lajoie, Montreal, Que., Dr. J. Harrison, Vancouver, B.C.

The tenth annual meeting is to be held in Harrison Hot Springs, B.C. in June 1954.

MISCELLANY

IMPRESSIONS OF THE WINNIPEG MEETING*

JEAN HINDS, *Winnipeg*

At the annual meeting of the Canadian Medical Association, the doctors dealt with a great many subjects—and often dealt with them in language that might just as well have been Chinese, so far as the average layman was concerned. At one session there was a paper called "Effect of Large Fat Meals on the Intact Circulation of the Cheek Pouch of the Hamster." At another there was an address on "Lipoprotein Metabolism and Its Relationship to Atherosclerosis and Associated Disease".

Well, in reporting the convention, I'm going to leave the Lipoprotein Metabolism strictly alone, and talk about the meeting in terms of what it meant to the average person. I'd like to do it this way: First, about doctors and reporters. Second, about doctors and some of their individual talks about our ailments—and finally, some of the sidelights of the big convention.

To begin with, here are the background facts about it: it was the 86th annual meeting of the Canadian Medical Association. It was held in the Royal Alexandra Hotel, Winnipeg, June 15 to 19. Fourteen hundred doctors were there—at times in general assembly and, much of the time, in groups to listen to papers or carry on round-table discussions. A moment ago I spoke of doctors and reporters. That could just as well be doctors and the public at large—because the public at large got its general impression of the convention through newspaper stories and radio reports.

The relationship between medicine and the press has often been . . . well, touchy, to say the least. Doctors, with some justice, have accused reporters of writing over-sensational, inaccurate stories. Reporters, with some justice, have said, "But there's a great deal the public has a right to know. How can we give the correct information if the doctors brush us off, if they're unwilling to interpret their work in a way most people can understand?"

However, that ancient feud—if such it is—was beautifully patched up at the medical convention. The Convention hired a big public relations firm who sent an energetic young man—Wyn Geldart—to smooth the way between the scientific talk of the conference table and the everyday talk of papers and radio. Both sides were delighted by the results. I saw a letter which Dr. Charles W. Burns, of Winnipeg, the new president of the association, wrote to the press, expressing thanks for the way the reporters had handled the convention. He said: "I am sure that this convention has demonstrated to us all that doctors and the press can co-operate in the interest

*This talk was originally heard over the C.B.C. Trans Canada Network on the program "This Week" June 20, 1953.

of the patients and the public. Let us hope that this convention has ushered in a new era in relationship."

As for the reporters—I was talking to half a dozen of them last night—a couple from Toronto and four from Winnipeg. They were tickled pink with the co-operation from the doctors. They had been given what any good workman wants—every opportunity to do his own job well. This is the way it was done: there was a press room in the hotel . . . six typewriters set up on a long table, with a medical dictionary close at hand, and believe me that medical dictionary was well-thumbed. Fourteen press and radio people were in and out, at one time or another. The reporters were free to attend many of the sessions and listen to the papers. Then, later, they got a chance to ask the doctor for more clarification. In the press room there was a press conference every noon and at five o'clock each day. And the doctors who had been the speakers of the morning, or the afternoon, came in.

For example, one morning, in one of the round-table discussions, the subject had been "Vertigo, Differential Diagnosis and Treatment". At noon, the doctor who had chaired the discussion appeared in the press room. One reporter started by saying, "Sir, will you explain—just exactly what IS vertigo?" The doctor said, "The common name for it is dizziness."

As a result of this working arrangement, the convention got all kinds of publicity and the public got a lot of interesting and valuable information. In Winnipeg especially—naturally since Winnipeg was the scene of the convention—the papers have, during the past week, taken on something of the appearance of medical journals written in popular language.

I called in at the press room almost every evening during the convention, and, occasionally, at noon. It was rather amusing—by the end of the week the reporters had begun to talk like the doctors. Along with mention of deadlines and by-lines, they were batting around such words as "traumatic" and "schizophrenic". Of course, in the stories they wrote, they kept defining their terms.

And they wrote an immense variety of interesting stories about subjects related to mental or physical health. I can't begin to go into all those stories here—at any rate you've probably read, or heard, a great many of them by this time. I'll mention a few—they're reports not of the opinion of the Canadian Medical Association as a whole, but of individual doctors, or groups of doctors.

Yesterday, some encouraging word came from the convention halls—from a doctor from the United States—Dr. W. Hammon, of Pittsburgh. Dr. Hammon said that, in two or three years, they'll be using a new vaccine which will protect children from polio—and using it widely. It's a vaccine made from the kidney tissue of monkeys. Dr. Hammon explained that they hoped to reach the point where they could vaccinate infants for polio as they now vaccinate against diphtheria, with a first dose of the polio vaccine in babyhood and booster shots every two or three years. Perhaps I should repeat—the polio vaccine isn't immediately available. Dr. Hammon said, "There are a number of complications that must be worked out before the vaccine goes into wide use."

As I mentioned a few moments ago, reporters have been accused of loving sensational stories. I don't know whether or not that's true, but if so, they weren't entirely frustrated during the annual meeting of the Canadian Medical Association—even while they were doing their work honestly and conscientiously. On June 17, one of the Winnipeg papers carried this headline: "He Told of Seeing Three-Eyed Nurse". That was quite a story. Maybe you've read it in one paper or another. It lent itself to rather lurid headlines, but it told of work being done in an effort to aid some unhappy people.

It had to do with schizophrenia . . . where's that medical dictionary? Still, schizophrenia is a word that's pretty well-known nowadays . . . it refers to a mental

disease commonly called split personality. People who have it suffer from hallucinations.

A young man who majored in psychology—Walter Stefaniuk—told the convention of seeing the three-eyed nurse. He was working with the Saskatchewan Committee on Schizophrenia. Some doctors and psychiatrists believe that the hallucinations of schizophrenia are caused, primarily, by an unknown drug existing in the blood. And lysergic acid, they believe, produces symptoms similar to those produced by the drug. So, Mr. Stefaniuk, and other volunteers, swallowed some lysergic acid, to try to trace what happens, mentally and physically, to the patient who suffers from hallucinations. He told of his reactions. The nurse seemed to have three eyes. Faces of humans became animal-like. The room seemed to fill with lace-work. He saw an explosion behind the chandelier and even felt the heat of it. The hallucinations lasted for two or three hours, Mr. Stefaniuk said.

While that story may seem sensational to the average person—if it is sensationalism, it's also legitimate—an account of one part of the vast volume of work going on to further the understanding, and the helping, of the sick.

An Ottawa doctor—Dr. J. P. S. Cathcart—talked about coronary thrombosis . . . stoppage of the heart caused by a blood clot. Most of us would just say "heart failure". Dr. Cathcart is consultant in psychiatry and neurology at Ottawa's Civic Hospital and General Hospital. He said that peace of mind is the best protection against coronary thrombosis. He went on to tell of the people who most often suffered: there weren't many cases among labourers, he said . . . but their wives were more apt to be afflicted. Perhaps because of emotional strain about the budget and so on. The highest rate of death, because of coronary thrombosis, was found in two types of workers—and rather an odd pair—American psychologists and bartenders. Maybe it's because both—and I quote Dr. Cathcart—"both are dealing constantly with the frailties of human nature and are witness daily to hostility in naked form, but are forced to restrain themselves rigidly from taking issue."

The general practitioner—the old style family doctor—wasn't left out of the considerations of the convention. Dr. W. F. Tufts, of Outlook, Saskatchewan, spoke about the work of the general practitioner. He told of the concern of medical schools because so many graduates are becoming specialists. He said the schools are now encouraging their graduates to become General Practitioners and he mentioned several special schools in the United States, devoted solely to turning out General Practitioners.

The convention, as a whole, gave this matter some attention. The General Council of the Canadian Medical Association decided to establish a College of General Practitioners—college, here, meaning an association binding together the nine thousand family doctors in Canada. The idea is to raise the standing, and prestige, of the family doctor, through greater educational opportunities, and greater recognition of his work.

A little more about the general business of the meeting: it's no news that the Canadian Medical Association is against socialized medicine—state medicine. They're in favour of a voluntary, national health insurance plan, co-ordinated in all ten provinces by one authority. When the new president, Dr. Charles W. Burns, was installed, he made a speech in which he referred to the continuing trend toward socialized medicine and said: "It seems to be an issue with all governmental parties." The Federal Health Minister, the Honourable Paul Martin, spoke to the doctors at a luncheon. He said, "No action taken by the present government will ever stifle or destroy the liberty of the individual doctor."

Now for some of the doings of the doctors outside of business and medical sessions. They themselves provided entertainment for many casual visitors to the hotel in which they held their convention. On the first floor there was an exhibit of 740 paintings and colour transparencies . . . the Physicians' Art Salon. All the pictures

were the work of members of the Canadian Medical Association.

I'm not an art critic, but it looked to me as if the hand that writes the prescription can also wield the brush. There was very little puzzling art—the kind of thing you look at and say, "What on earth is that?" You could recognize the doctors' pictures. A mountain looked like a mountain, a house looked like a house, and a still-life, showing grapes and oranges and pineapples, looked like—grapes and oranges and pineapples.

Another exhibit was on the mezzanine floor, near the convention rooms. I started this talk by poking a little fun at highly technical language. Well, in the exhibit I speak of, a doctor poked fun at some of the layman's terms for certain ills. It was a photographic display, by Dr. S. Vaisrub, of Winnipeg. He used double negative prints to produce photographs of such things as a hammer toe—a picture of a toe with a large hammer growing out of it. Buck teeth were illustrated by a set of false teeth with a dollar bill clamped between them. A wry neck was a twisted neck with a bottle of rye supporting it. Apparently, when the doctors put their minds to it, they can reduce any description of ailments to the simplest, and most graphic, terms.

The last person I spoke to at the convention was Dr. A. D. Kelly, of Toronto, assistant secretary of the Program Committee—and a most pleasant and courteous gentleman who, I suspect, had a great deal to do with keeping things running smoothly. I was asking him to check my pronunciation of those words I started with—atherosclerosis and lipoprotein. He smilingly obliged—and I was so busy trying to get the pronunciation right, I completely forgot to ask him what in the world they meant!

SPECIAL CORRESPONDENCE

The London Letter

(From our own correspondent)

THE MINISTER AND THE DRUG BILL

An interesting sidelight on the curiously stilted relationships which have existed between the Ministry of Health and the medical profession since the inauguration of the National Health Service was pointed out by Mr. Iain Macleod, the present Minister of Health, when he addressed the B.M.A. annual conference of representatives of local medical committees recently. Apparently this was the first meeting between the Minister and a representative body of general practitioners since the National Health Service started. The reception he received was ample evidence of how much his presence was appreciated.

Much of his speech was taken up with the problem of reducing the national drug bill which has risen from £31½ million in 1949-50 to an estimated £46½ million in 1953-54. Taking into consideration the whole range of dressings and appliances prescribed, the figure is nearer £60 million. This increase he attributed to two major factors: (1) the increase in the total number of prescriptions dispensed (over 200 million a year); (2) the rise in the average cost of prescriptions (from 2s. 9d. in 1948-49 to an estimated 4s. 3d. in 1953-54) due to (a) the introduction of new valuable but expensive drugs, (b) the rise in ingredient costs, (c) the prescribing of an increased proportion of proprietary preparations. In 1952, proprietaries represented 26% of the total number of prescriptions, 52% of their total ingredient cost and 44.5% of their total cost.

The Minister's chief hope of reducing his drug bill is by reducing this proportion of proprietary preparations, and he appealed to the profession to prescribe standard (or official) preparations rather than proprietary ones,

particularly if there is much difference in price. As an example of the additional cost of proprietary preparations he quoted the example of proprietary tablets containing aspirin, phenacetin and codeine which cost 6s. 3½d. per 50, whereas the comparable standard preparation costs only 2s. 11d. for 50. There is considerable force in the Minister's arguments, and there is equally little doubt that he will receive the support of the vast bulk of the profession, but the implications for the future of pharmaceutical research in this country if the revenue of the larger pharmaceutical companies is drastically curtailed are not receiving the serious consideration they deserve.

LATIN OR ENGLISH?

It was at this same conference that there cropped up what some of the older generation would regard as a welcome sign that tradition dies hard; the younger generation of iconoclasts, like the Greeks, would have another word for it. A motion was carried to the effect that there should be a return to the Latin system of headings in future editions of the *National Formulary*. The mover of the motion considered that there were three good things about Latin headings: they were international; pharmacists liked them; the bulk of general practitioners and consultants found them most convenient. Further, there was about them a certain classical dignity which was not unbecoming to a profession such as medicine. A supporter of the motion was even franker in his approach to the problem—he considered that Latin was one of the things that young doctors should know. The opposition pointed out that pharmacology was taught in English, that the *British Pharmacopoeia* had English titles, and that there was an increasing population who had no Latin.

This is a magnificent rearguard action, but it looks as if nothing can stand in the way of the Ministry of Education's onslaught on traditional educational standards backed up as it is by the enthusiastic support of the Universities and Public Schools. In a few years' time, unless the Universities and Public Schools regain their sanity, the doctors of the country will be mere technologists with a cultural background as barren as the steppes of central Asia.

FOOD POISONING

Minor outbreaks of food poisoning are endemic in this country—like the poor before the last war, they are always with us: so much so that they are accepted as a matter of course. Even the latest outbreak is arousing relatively little interest in the press. This is an outbreak in Lancashire which began on June 13 and within a fortnight had involved 1,100 people, 35 of whom had been detained in hospital, and there had been two fatalities. The outbreak has been traced to meat pies, and the incriminated organism is *S. morbificans bovis*. The main features of the clinical picture have been a short incubation period (usually 18 to 24 hours), abdominal colic, vomiting, diarrhoea, headache, pain in the limbs and general prostration. The duration of the illness has been from eight hours to five days.

MEDICAL STATISTICIANS HONOURED

The increasing importance being attached to medical statistics is well illustrated by two recent awards of the Royal Statistical Society, both of which have gone to members of the Department of Medical Statistics and Epidemiology of the London School of Hygiene and Tropical Medicine. Professor A. Bradford Hill, the director of the department, who is also the president of the Society this year, has been awarded the Guy Gold Medal in recognition of his pre-eminent position in the field of medical statistics, whilst Dr. J. O. Irwin has been awarded the Guy Silver Medal in recognition of his contributions to statistical methodology, particularly in the field of bio-assay.

WILLIAM A. R. THOMSON
London, July, 1953.

OBITUARIES

LE DR ROLAND BELANGER est décédé le 29 mai à l'âge de 48 ans. Le Dr Bélanger avait terminé son cours classique au collège de l'Assomption en 1926. Il fit ses études de médecine de 1926 à 1932 à l'Université de Montréal. En 1944, il y fut nommé professeur adjoint d'histologie et d'embryologie. Il laisse son épouse et trois enfants.

DR. ROLLETT ANDREW CARSON, aged 56, who served overseas with the 67th Battery, Canadian Field Artillery in World War I, died on May 23 in Cleveland, Ohio. He had practiced medicine in Cleveland for more than 30 years. He was born in Barrie, and graduated from University of Toronto. He leaves his widow and one son.

DR. MARY ELIZABETH CRAWFORD, former superintendent of schools in Winnipeg, died recently at Invermere, B.C. She was a graduate of Trinity College, Toronto, class of 1900. Dr. Crawford was made a member of the Venerable Order of St. John of Jerusalem for her contribution to the welfare of Winnipeg children through the promotion of first aid work in the schools.

DR. OLIVER CLARENCE DINNIWELL, of Ajax, Ont., died on June 6, at the age of 54. He had not practiced for nine months because of illness. Dr. Dinniwel was born in Wiarton. He graduated from the University of Toronto in 1924 and began his practice in Ajax 10 years ago. He leaves his widow, a daughter and a son.

LE DR EUGENE DUFRESNE est décédé le 25 mai à son domicile à la suite d'une longue maladie. Reçu docteur en médecine en 1904, il avait ensuite étudié la chirurgie à Paris pendant trois ans. Professeur d'anatomie à l'Université de Montréal, le défunt avait été chirurgien à l'hôpital Notre-Dame, puis chirurgien-chef à l'hôpital St-Jean-de-Dieu et à l'hôpital des aliénés criminels de Bordeaux ainsi que chirurgien consultant à l'hôpital Sainte-Jeanne-d'Arc.

Le Dr Dufresne était membre honoraire et ancien président de la Société médicale et de la Société de chirurgie de Montréal. Le défunt laisse une fille et deux fils.

LE DR A.-N. DUPUIS, ex-président du club Sherbrooke, de la ligue Québec Senior de hockey, est décédé à l'hôpital, le 3 mai après une longue maladie. Il était âgé de 59 ans. Le Dr Dupuis, qui était bien connu dans les cercles sportifs de la province, a été président du club Sherbrooke de 1948 à 1952.

DR. DESMOND P. HARRIS died on May 9 following a car accident in Regina, Sask. Dr. Harris, a graduate of Dublin, came to Herbert, Sask. in February 1952 where he worked for about a year. Early this year he went to Regina and at the time of his death was on the staff of the Grey Nuns Hospital.

DR. WILLIAM LUDLOW HOLMAN died from multiple myeloma, on June 22nd, 1953. Mercifully the final stage was not prolonged. Dr. Holman was born in Summerside, P.E.I. in 1879. In 1903 he graduated B.A. from McGill University and in 1907 obtained the M.D.C.M. He was intern in the Royal Victoria Hospital for the following year and assistant in the department of Pathology and Bacteriology in McGill 1908-09. From September 1909 to May 1910 he was a voluntary research student under Dr. Welch in Johns Hopkins Hospital and was in Breslau until November 1910 studying under Pfeiffer. On his return he joined the Medical Faculty of the University of Pittsburg where he passed

the grades from instructor to professor. The next three years were spent in Leland Stanford where he again attained the rank of professor. He went back to Johns Hopkins in 1923 as Associate Professor and in 1924 came to Toronto as Associate Professor of Bacteriology. In 1928 he became Professor and so continued until his retirement five years ago.

In World War I, Dr. Holman served as a Bacteriologist in Ris Orangis and Paris 1916-17. In his active years he contributed many valuable studies to scientific journals. He was an inspiring and painstaking teacher. He was a member of many scientific societies and a Fellow of the American College of Physicians and the American Association for the Advancement of Science.

Dr. Holman was a man of wide culture and belonged to The Arts and Letters Club. He was long a member of The Medical Historical Club of Toronto and communicated notable studies to its archives. He was a friendly soul and held in affection as well as esteem by his colleagues.

His widow, and one son, survive him.

DR. J. W. HUTCHISON, aged 71, founder of the department of urology at Royal Victoria Hospital, Montreal, died in Ottawa after a lengthy illness. Dr. Hutchison was a pioneer in the field of urology and for many years a prominent surgeon at Ottawa's Civic Hospital. A son of Dr. John A. Hutchison, for many years medical health officer of Westmount, Que., he was educated at Montreal High School and McGill University. He served on the staff of Royal Victoria Hospital and McGill University until 1915 when he enlisted and served overseas with the Canadian army. Dr. Hutchison moved to Ottawa from Montreal in 1919, serving on the staff of various hospitals until he joined the Civic Hospital in 1924. He was a charter Fellow of the American College of Surgeons and a member of the Canadian and American Urological Associations. He is survived by his widow.

DR. DOUGLAS U. MCGREGOR, aged 58, of Hamilton, Ont., died of a heart seizure on June 10. Dr. McGregor was a native of Waterdown, and before entering a medical career had served with the Royal Flying Corps in France. He was credited with 11 enemy planes. He was educated at Waterdown and Hamilton schools, and at McGill University. At the time of his death he was president of the Canadian Chapter, International College of Surgeons. During his career he had undertaken posts as chief of surgical division for Hamilton General Hospital; honorary consultant at Hamilton General, St. Joseph's Hospital and the Mountain Sanatorium; fellow and trustee of the International College of Surgeons; vice-president of the American Goitre Association; surgeon for the federal Department of Veterans' Affairs from 1930 to 1944; member of the Hamilton Medical Research Board, Hamilton Academy of Medicine, Ontario College of Physicians and Surgeons, and member of the board of directors of the northeastern section of the American Urological Association.

He devoted much of his time to charitable and sports undertakings. In his active career he was one of the greatest centres in Canadian football at McGill. One of his deepest interests was in the care and treatment of crippled children. Through his association with the Hamilton Rotary Club he was instrumental in organizing Rotary's plan for helping crippled children. Dr. McGregor had been associated with the R.C.A.F. from its inception. In 1935 he was named to command Hamilton's first air force establishment, No. 119 Bomber Reconnaissance Squadron. He leaves his widow and two sons.

DR. IRA R. MCKENDRY, aged 66, of Melfort, Sask., died May 7. Born in Ontario, Dr. McKendry attended Queen's university graduating in 1914. He practiced in Sudbury, Ont., and Creelman, Sask., before moving to Melfort in 1920. Surviving are his widow, one son and one daughter.

DR. E. A. MOORE, aged 63, of Toronto collapsed and died on May 8 while he was attending a patient. Dr. Moore was a graduate of the University of Toronto, 1928.

DR. CHARLES THOMPSON NOBLE II died on June 19 in Sutton, Ont. He was 88 and had served as a general practitioner in Sutton for more than half a century. The first Dr. Thompson, his father, opened his practice in 1856. His son, after studying at McGill University and in London, England, joined his father before the turn of the century. Dr. Stewart Noble took complete charge of the practice and permitted his father's retirement on his return from the Second World War. Dr. Noble, an ardent sportman was active until close to his death and took part in a fox hunt only a week ago. He leaves his widow, six daughters and two sons.

DR. ALBERT SNYDER, died in Verdun General Hospital, Verdun, Que., on May 30 after a month's illness. He was 75. Born in Iroquois, Ont., he received his early education at Coaticook, Que., and began practicing medicine at Lake Megantic in 1901. He then moved to Saskatchewan and Alberta before coming to Montreal in 1914. The following year he moved to Verdun and carried on a practice there until a short time ago. Surviving are his widow, two daughters and one son.

DR. CECIL ELLWOOD SPENCE, aged 71, of Fort William, Ont., who had been practising in Lakehead hospitals and homes since 1908, died on June 10 from a heart attack. Dr. Spence was born in 1881, at Niagara Falls. He was educated and served an apprenticeship in pharmacy there, and in 1905 graduated in medicine from the University of Toronto. He interned in the Toronto General Hospital, spent some time at New Liskeard, Ont., and came to Port Arthur in 1908. He later settled in Fort William. Surviving are four sons: Drs. Peter McKellar and J. B. Spence, F.R.C.S., in Fort William, Donald Burgess and Cecil E. Spence, of Toronto; and one daughter.

cæmia due to *S. enteritidis*. The author states that since body lice were found to harbour *S. enteritidis* during epidemics in Europe as well as China, Salmonella infections should be added to the list of louse-borne diseases.
ISABEL M. LAUDER

The Routine Use of Quinidine in Acute Myocardial Infarction.

CUTTS, F. B. AND RAPOPORT, B.: NEW ENGLAND J. MED., 247: 81, 1952.

While studying the use of dicoumarol in the treatment of acute myocardial infarction quinidine was given in addition to other forms of therapy to assess its value in these patients. The first 55 cases, not given quinidine, served as a control series. A second group of 66 received 0.2 gm. quinidine sulphate by mouth four times daily. (no night dosage). Alternate cases of a third group of 40 patients were given 0.4 gm. quinidine every eight hours and alternate cases of a final group of 50 cases 0.6 gm. every eight hours. No evidence was obtained that the use of quinidine influenced the mortality rate or prevented sudden death after the occurrence of acute myocardial infarction. The effect of the drug in preventing arrhythmias was considered to be inconstant and only of moderate degree.

While toxic effects of quinidine, in the dosages employed, were infrequent and of slight degree this study offers no support for the routine use of quinidine in the treatment of acute myocardial infarction.

NORMAN S. SKINNER

Reticulo-endotheliosis.

BLATTNER, R. J.: POST-GRAD. MED., 12: 430, 1952.

Clinical observation and x-ray studies on a group of patients with reticulo-endotheliosis suggest that nitrogen mustard does play some part in altering the course of reticulo-endotheliosis, particularly in those patients having marked skeletal involvement and minimal visceral involvement. In patients who succumbed eventually, improvement in the general condition seemed to follow the administration of nitrogen mustard; the children seemed to be more comfortable, had better appetites, were more cheerful, and the skin lesions—while still present—as a rule seemed definitely less troublesome. Notwithstanding the temporary character of the improvement, the administration of nitrogen mustard would seem justifiable as a palliative therapeutic measure. In one case regression of the pathologic process seemed to have occurred. In this instance a combination of nitrogen mustard and x-ray therapy was used. In a second case the patient is at the present time responding favourably in that a process of bone healing is taking place. In the experience of the author symptoms due to diabetes insipidus are not improved by the administration of nitrogen mustard. Further clinical trials with this therapeutic agent, perhaps in combination with deep x-ray therapy, seem warranted.
J. A. STEWART DORRANCE

Causalgia.

MAYFIELD, F. H.: POST-GRAD. MED., 12: 436, 1952.

Causalgia is a painful disorder which develops following nerve injury, in which the patient usually complains of burning pain. It is associated also with profound trophic changes, which are believed to result from alterations in blood flow, which in turn are secondary to pain. It appears probable that the pathologic mechanism is a transfer or shunt of impulses at the site of injury within the nerve. It can be relieved temporarily by procaine injection of the sympathetic chain and permanently by surgical removal of the appropriate portion of the sympathetic chain. Relief also follows when the nerve injury is of such degree that surgical excision of the

ABSTRACTS from current literature

MEDICINE

Some Experiences with Enteric Diseases in Korea.

ZIMMERMAN, LT.-COL. L. E.: AM. J. PUB. HEALTH, 43: 279, 1953.

An epidemic of enteric diseases among Communist prisoners, in 1951, revealed unusual clinical, pathological and epidemiological manifestations. A total of 1,106 enteric pathogens were recovered. Two-thirds of these were classified as bacillary dysentery; the rest were Salmonella infections of which the largest number were identified as *S. paratyphi*. Of clinical importance were the facts that the patients were ambulatory and asymptomatic, or only mildly ill, until the time of ulcer perforation. In contrast, typhoid ulcers usually perforate in the second or third week of illness. Also of importance was the absence of massive gastro-intestinal hæmorrhage—a complication greatly feared in typhoid.

A detailed pathological study of autopsies revealed that the perforated paratyphoid ulcers in common with those of typhoid cases occurred in the lower ileum. Multiple ulcers were more common than single, and Peyer's patches were not usually grossly hypertrophied.

Of interest to both the clinician and epidemiologist were two cases of relapsing fever complicated by septi-

injured segment is necessary. Many patients with causalgia of mild degree recover spontaneously, and one is justified in using repeated procaine injections of the sympathetic chain or drugs such as etamon and priscoine, which blockade the sympathetic chain, so long as improvement follows, if the patient is not undergoing emotional deterioration or showing crippling ankylosis as the result of the pain. Procaine injection is essential in differential diagnosis between causalgia and hysterical post-traumatic vasomotor complexes. There are a few patients with similar symptom complexes that do not result from either causalgia or hysteria. Their problem is most complex and not well understood, and fortunately they are rare.

J. A. STEWART DORRANCE

Streptococcal Diseases in Childhood.

DENNY, F. W.: POST-GRAD. MED., 13: 153, 1953.

The streptococcus responsible for respiratory infections and rheumatic fever is classified as beta hæmolytic because of its ability to produce complete hæmolysis on a blood agar culture plate. This organism may be isolated from the throats of 5 to 10% of the children in the normal population. Invasion of the upper respiratory tract by group A streptococcus is followed by a disease that varies with the age of the patient. A child under 6 months of age may be asymptomatic or have a brief illness of irregular fever, thin nasal discharge, slight pharyngeal infection and only mild systemic reaction. From 6 months to 3 years of age the patient is much more ill and may remain so for several weeks. The onset is insidious with fever, red pharynx, vomiting, anorexia, and cervical lymphadenopathy. After the age of 3 years there is a short, stormy well localized illness—the "strep. throat". There is a sudden onset with chills, fever, headache, and a sore throat. The tonsils and pharynx are quite red. The tonsils are enlarged as are the cervical lymph nodes. The peripheral leukocyte count is usually 12,000 to 20,000 per c.mm.—low or normal counts are seen in the common cold or nonstreptococcal exudative pharyngitis. Throat cultures are positive, and help in diagnosis. Penicillin, aureomycin, or terramycin should be given in full therapeutic doses for at least 7 days, and if possible 10 days. This will prevent recurrence or the subsequent development of rheumatic fever. In patients who already have rheumatic fever, sulfadiazine or penicillin will prevent the occurrence of streptococcal infections.

J. A. STEWART DORRANCE

Renal Function During and After Diabetic Coma.

BERNSTEIN, L. M., FOLEY, E. F. AND HOFFMAN, W. S.: J. CLIN. INVESTIGATION, 31: 711, 1952.

The specific clearance methods of Homer Smith were utilized for the study of renal function during and after diabetic coma. The six cases studied were divided into two groups. Group I of four patients at the time of coma showed a reduction of C_{M} , C_{PAH} , and Tm_{PAH} .

These were quickly restored to normal or super-normal values after repair of dehydration and electrolyte deficits. These rapidly reversed alterations of renal function were believed to be caused by dehydration with its accompanying decrease in blood volume, cardiac output, and renal blood flow, and by the exaggeration of the last defect by the renal hæmodynamic response to such dehydration. The two patients of group II showed azotæmia which progressed in spite of correction of water and electrolyte loss, and which lasted two weeks. Several days after recovery from coma, C_{M} , C_{PAH} , and Tm_{PAH} were still markedly reduced, and the ratios were distorted. These values returned to normal very slowly. In these patients the renal ischæmia had apparently

produced a reversible organic lesion similar to that found in "lower nephron nephrosis", except that it was milder and that it was unaccompanied by initial oliguria.

J. A. STEWART DORRANCE

The Physiologic Approach to the Management of Itching.

LOBITZ, W. C. AND JILLSON, O. F.: POST-GRAD. MED., 12: 2, 1952.

Itching is a function of the epidermis where the terminal nerve endings are located. The sensation of itching is closely related to that of pain and is not related to the other sensory modalities; itch is present only when pain is present. Itch sensation, like pain, may be separated into 2 components of pricking itch and burning itch. Pain threshold is lower at the site of itch than when the same area is not itchy. The normal reflex response to the itch sensation is to scratch, this will relieve itch by stimulating pain endings, and thus converting the intolerable itching sensations to the more tolerable pain sensations, or by breaking up the monotony of the nerve fibre response producing the itch—the "itch scratch" cycle. Any trauma to the skin surface is associated with the clinical response of red line, flare, and whealing. Since itch is a stimulus to scratch the cycle repeats itself. Inhibition of scratching is accomplished at high conscious levels and by much mental effort. The best cure is to remove the cause. The control of itching should be as exact a science as the control of pain, of which it is a part. The itching of dry skin may be treated by hydration of the skin and by prevention of rapid evaporation from the skin. The itching of sweat retention syndrome ("heat rash", or prickly heat) is to prevent excessive sweating by environmental thermal control or cool wet dressings. Scabies and pediculosis are treated by removal of the cause and if necessary treating any secondary infection. Urticaria may be difficult to control as there are so many factors involved. Continued omission of causes is the most efficient therapy, although there may be some difficulty in determining the cause. Dermatitis herpetiformis, of unknown etiology, is cured in 85% of cases by sulfapyridine. Lichen planus may be treated by 0.2 gm. of bismuth subsalicylate injected intramuscularly once a week. Senile skin in the post-climacteric man may be controlled by sublingual testosterone—5 mgm. linguets, t.i.d. Localized pruritus involves extensive searching for the cause, and relief invariably follows removal or treatment of the cause. Herpes gestationis during pregnancy is controlled by diethylstilbæstrol, 50 mgm. daily at the fifth month increasing to 125 mgm. daily at term.

J. A. STEWART DORRANCE

SURGERY

The Relationship Between Benign Breast Disease and Cancer.

LEWISON, E. F. AND LYONS, J. G.: ARCH. SURG., 66: 94, 1953.

A long term follow-up of all patients with benign breast disease operated upon as in-patients at John Hopkins Hospital from 1925 to 1942 covered 451 cases of which 385 patients were traced. The diagnosis was fibroadenoma in 200, chronic cystic mastitis in 153 and papilloma in 32 patients. Primary operation was simple excision in 92%. Benign breast disease recurred in 13%. Cancer developed in 1.8% of these 385 patients.

Compared with the "normal" incidence of breast cancer, the chances of acquiring breast cancer seemed 2.6 to 3.6 times as great in this series as in the general female population. Although a correlation between the two appears evident there is no evidence from this study that one type of benign breast disease is any more precancerous than another. Of the 7 cases of cancer developing later, 6 occurred after an interval of 9 years, and in 4 cases the cancer developed in the opposite breast.

BURNS PLEWES

*The Phrenic Rebound Phenomenon—
A New Physical Sign.*

HOFFMAN, E.: ANN. SURG., 136: 2, 316, 1952.

The production of referred shoulder pain by irritation of the diaphragm as a result of intra-abdominal lesions is a well known phenomenon. Pain from the diaphragmatic irritation is referred via the phrenic nerve to the shoulder region. This area may also present local hyperæsthesia or point tenderness. The close relationship between the shoulder region and the diaphragm is a result of their neuro-anatomic connections.

The author reports a new physical sign which he found to be present in cases of intraperitoneal hæmorrhage and of peritonitis, chemical and bacterial. This sign consists of the production of upper abdominal or lower abdominal pain by pressure on the phrenic nerve in the neck. The patient's head is turned toward the contralateral side, thus superimposing the skin and pressure points. It is a point on either side of the neck, at a level of about 0.75 to 1.5 inches above the clavicle, just posterior to the lateral border of the sternocleidomastoid muscle in the subclavian triangle. At this point the scalenus anticus muscle is directly under the finger, and the phrenic nerve runs anteriorly, medially, and caudally over the scalenus anticus muscle. The pain is produced in the abdomen and is of a sharp, sudden, cramping nature. It does not persist when the phrenic pressure is released. The pain has most frequently been located at the lateral border of the rectus abdominis muscle, at a point approximately one-half the distance between the level of the umbilicus and that of the symphysis. Occasionally, it has been located at a point on the lateral border of the rectus abdominis muscle halfway between the costal margin and the level of the umbilicus. In one case, there was epigastric pain. The pain occurred on the same site as that on which the phrenic pressure was applied in all but one case.

The author suggests that this sign may be called the phrenic rebound phenomenon. He lists the conditions in which he found the phenomenon to be present and those conditions in which the sign was absent. B. L. FRANK

Abdominal Incisions in Infants and Children.

GROSS, R. E. AND FERGUSON, C. C.: ANN. SURG., 137: 349, 1953.

The incidence of evisceration following abdominal surgery in the Children's Hospital of Boston has steadily decreased during the past 20 years and over 8,000 operations.

A transverse right lower quadrant muscle-splitting incision, a little higher placed than in adults, is now the routine for acute appendicitis. Robertson's right subcostal muscle-splitting incision is recommended for congenital hypertrophic pyloric stenosis. The vertical midline incision should never be used in children for it heals poorly. A vertical rectus incision, retracting the muscle laterally is used a great deal. The muscle belly is anchored medially to the linea alba in closing. Transverse incisions for biliary surgery, splenectomy and kidney tumours are being used more frequently. Flank incisions are favoured for ureter and kidney neoplasms. For upper stomach and lower œsophagus lesions, spleno-renal anastomoses and some diaphragmatic hernias, a thoraco-abdominal incision along the 9th intercostal space and extending into the abdomen by splitting muscles, is used. Pfannenstiel's incision is recommended for pelvic exploration.

For closure 3-0 or 4-0 chromic catgut or 4-0 silk is used and the peritoneal edges everted. Subcuticular sutures of 5-0 silk lessen the spreading of the scar. Tension sutures are never employed. Edema of the wound edges contribute more than any other factor to disruption and intravenous fluids must be carefully studied. Other factors are discussed.

The treatment of evisceration is carefully described. It occurred in less than 1% of this series. The evisceration rate now is 0.39%. BURNS PLEWES

PÆDIATRICS

Parenteral Fluid Therapy in Pædiatric Patients.

FISHER, W. A. AND MONTAGY, D. S.: POST-GRAD. MED., 13: 70, 1953.

The prevention or correction of excessive water loss may mean the difference between success and failure in therapy in children. Requirements for water, electrolytes, proteins, and calories are relatively greater in children than in adults. Vomiting and diarrhoea are more frequent, and dehydration associated with acidosis or alkalosis may develop with startling rapidity. Starvation causes dehydration as it is secondary to fever, restlessness, increased respiration, and deficient water intake. Correction is by water and glucose administration. Vomiting causes dehydration and electrolyte depletion causing alkalosis with hypochloræmia. This may be corrected by water administration in amounts equal to that lost in vomitus, urine, and insensible perspiration. Diarrhoea causes dehydration and serious electrolyte loss and the parenteral fluid replacement should contain electrolytes to make up for any deficiencies.

Parenteral fluid therapy is to maintain the body in an optimal state with respect to blood and plasma volumes, water content, and electrolyte balance. An excessive loss of sodium is associated with and excessive loss of chloride as occurs in intestinal obstruction, intestinal fistule, starvation, and acidosis. In the acidotic or in the burned child M/6 normal lactate solution with ½ normal saline to cover the chloride loss by vomiting should be given. The amount of electrolyte and alkali to be given may be estimated by the carbon dioxide combining content, and chloride determinations. Parenteral fluids are given subcutaneously, intravenously, or by the intramedullary route. Various isotonic solutions may be given subcutaneously, aided by a hyaluronidase preparation; in addition to isotonic fluids, whole blood and plasma may be given by the intravenous route. The needle may be inserted in the vein for a short time, or it may be inserted via a "cut down" and left in for a few days, or a polythene tube may be fed into the vein for prolonged fluid administration. Intramedullary infusions are done by inserting a Tocantins needle into the medullary portion of a long bone shaft and administering isotonic solutions. J. A. STEWART DORRANCE

Infection in the Newborn Baby.

MONCRIEFF, A.: BRIT. M. J., 1: 1, 1953.

The common-cold is often overlooked in the newborn as he lies on his back or side and as the nasal secretions drain toward the pharynx he does not sneeze, and the nasal discharge is not observed. In the pharynx the secretions may cause partial or total obstruction and this subsequently leads to broncho-pneumonia or gastro-enteritis, either of which may be fatal. Failure to recognize infection may be due to the idea that the newborn does not "catch" infection, and the difficulty in interpreting fever in the newborn may add to the difficulties. The basic temperature of the newborn or premature infant is 97° F. by rectum, thus a rectal temperature of 99° F. should be normal for an adult, but would indicate a fever of 2° F. in the newborn infant. The "adult" level may not be reached for 10 or 14 days. Regular daily temperature-recording should be carried out for all babies (as for all mothers) in the newborn period, so that an early rise can be detected.

The author quotes incidences of congenital syphilis and congenital tuberculosis, as well as congenital *B. coli* as infections acquired before birth. Herpes in the mother may be associated with the early development of encephalitis after birth. The infant may acquire infection by the inhalation of amniotic contents, particularly in cases with prolonged rupture of the membranes. Infections may be acquired during birth, i.e., gonococcal ophthalmia or gonococcal arthritis, here again tuberculosis may be acquired from a midwife or nurse. In-

fections acquired after birth may depend on passive immunity transmitted by the placental route. In post-natal infections there must be a portal of entry and if severe enough may lead to sepsis neonatorum. The essential principle is diagnosis and from this follows treatment—antibiotics and chemotherapeutics, the maintenance of breast feeding for as long as possible and the prevention of dehydration.

J. A. STEWART DORRANCE

The Optimum Dose of Pollen in the Treatment of Pollinosis of Children.

LEVIN, S. J.: J. PEDIAT., 41: 294, 1952.

The maximum tolerated dose is the optimum dose for the pollen-sensitive patient. Coseasonal treatment for a patient not previously treated is best carried out by means of small intradermal injections at one- to three-day intervals: small-dose therapy is not as effective as high-dose therapy for preseasonal and perennial desensitization (immunization). Children tolerate high-pollen dosage at least as well if not better than do adults: for the child of average sensitivity 0.5 to 1.00 ml. of 3% pollen extract (15,000 to 30,000 Noon units) is the optimum dosage. Generally speaking the greater the degree of skin sensitivity to pollen tests, the smaller the top dosage of pollen extract required. Quantitative skin tests by the serial dilution method are not accurate enough to predict top dosage, and are therefore not advisable as a routine procedure. The best guide to pollen dosage is the local reaction, provided important factors other than dosage are considered. These are: (1) depth of injection, and (2) irritation due to the extracting fluid used. General reactions occurred with relative infrequency, despite the high doses used in hundreds of pollen-sensitive children, provided increase in dosage and other precautions are properly carried out. The author reports that the results of high dose therapy in pollen-sensitive children has been excellent: 80% of his patients received excellent results the first year of such preseasonal therapy; 50% were able to discontinue treatment in 3 to 5 years of continuous preseasonal and perennial therapy when treatment was carried out according to the method outlined.

J. A. STEWART DORRANCE

Allergies in Children.

SMYTH, F. S.: POST-GRAD. MED., 12: 223, 1952.

The author describes 2 cases of allergic sensitization in children and the general treatment of this condition. Specific treatment is of 2 types: (1) reducing exposure to known or suspected allergens; and (2) building up the patient's tolerance or resistance to the allergens. Drugs are of symptomatic value only: (1) the traditional epinephrine group—either individually or in combination; (2) the antihistaminics; (3) ACTH and cortisone; and (4) ointments and lotions to decrease pruritus and protect the skin.

In cases of skin involvement the affected areas should be covered with stockinette after it has been thoroughly washed (boiled). Where possible avoid contacts with wool and feathers, as wool, in particular, is irritating to the child's skin. Culture any pustules or pimples and make antigens to desensitize the patient; this includes the patient's lesions and those of other members of the family. Prurigo should be treated by local application of ammoniated mercury ointment, and this is also applied to the finger nails to prevent spread by scratching. Soap and water should be avoided, and if necessary use a detergent as many are less irritating than soap. Glycerin will soften tough skin and is bacteriocidal. Diet elimination will be of benefit in those who are food-sensitive and house dust control measures should be applied where necessary. Inspection of the home is frequently of great advantage, particularly in the low socio-economic groups where some of the recommended measures may not be undertaken and substitution may be suggested.

J. A. STEWART DORRANCE

Cluttering.

BAKWIN, R. M. AND BAKWIN, H.: J. PEDIAT., 40: 393, 1952.

Cluttering is rapid, confused, and jumbled speech which is often mistaken for stuttering. It may be associated with abnormal clumsiness, and with characteristic changes in behaviour and personality; the defect persists throughout life and can be satisfactory controlled by proper treatment. The clinical characteristics are: (1) The distinctive speech; (2) motor awkwardness; (3) changes in personality and behaviour; (4) association with other language defects, without alterations in lateral dominance; and (6) the family history. Unlike stutterers, clutterers improve their speech when they are careful and pay close attention to what they want to say. Cluttering is unique among speech disorders in that it represents simply an exaggeration of the errors of speech made by the normal person. Hoarseness and stammering episodes are common, while the articulation is slurred. Clutterers may be ambidexterous, left-handed or have crossed dominance, i.e., right-handedness and left-eyedness, and it commonly occurs repeatedly in a family. Cluttering is an organic disturbance of the language functions and stuttering is a further development of it and represents a reaction of a clutterer to an unfavourable environment. Treatment is easier the earlier it is begun, it is a training for self-control and precision in speech and in social behaviour, the child should be helped to concentrate on the details of speech, he should be taught to read every word aloud and to avoid substitution, and he should enunciate each word while writing it to slow speech and call attention to detail. The Rev. W. A. Spooner, Warden of New College Oxford is the best known clutterer and his word confusions have become to be known as "spoonerisms"—"two great English poets, Kelly and Sheets".

J. A. STEWART DORRANCE

THERAPEUTICS

The Use and Abuse of Thyroid Hormone Therapy.

PERLMUTTER, M.: METABOLISM-CLIN. AND EXPER., 2: 1, 81, 1953.

Thyroid extract has been prescribed for many symptoms and diseases. The conditions in which the therapeutic use of thyroid hormone is indicated may be subdivided into three groups.

1. Those in which thyroid therapy is valuable: Thyroid is indicated in the treatment of primary hypothyroidism. Patients with hypothyroidism, however, are excessively sensitive to thyroid hormone. It is therefore wise to start treatment with small doses. In the adult myxedematous patient, 6 mgm. or at the most 15 mgm. is the recommended daily dose. It has been suggested that the maximum effect of the daily administration of any dose of thyroid extract is reached at ten to fourteen days. Thus the dose should be increased every fortnight until the optimal therapeutic dose is attained. The final dosage should be that which gives the maximum degree of well-being with the minimum of discomfort. Excessive thyroid ingestion may cause diarrhoea, psychotic states and angina pectoris. Frequently the dose has to be decreased during the summer months.

Patients with hypopituitarism are also susceptible to excessive thyroid administration. These patients can tolerate the lack of adrenal cortical activity while they are in a hypometabolic state. However, if sufficient thyroid hormone is administered to restore normal metabolism rapidly, then the latent adreno-cortical insufficiency may be unmasked and the patient may go into an Addisonian crisis. Thus salt and cortisone should be given to these patients if thyroid extract therapy is to be instituted.

2. Those in which thyroid therapy is of doubtful value: Experience of many physicians suggests that thyroid extract is of value in the treatment of sterility. However, this conclusion is based on clinical impressions rather than on scientific data. Thyroid extract has been used frequently, and apparently with success, to halt the progressive course of many cases of severe exophthalmos. Nontoxic multinodular goitres decrease in size when thyroid extract is given; it is important to point out that thyroid hormone ingestion in the treatment of multinodular goitre may be potentially malignant and should therefore be removed.

3. Those in which thyroid therapy is of no value: Despite the fact that expectations have not been borne out by facts, thyroid extract is still administered in such conditions as obesity, slipped epiphyses, nephrosis and hypometabolism without hypothyroidism. Thyroid therapy in cases of hypometabolism due to malnutrition or Addison's disease is definitely harmful.

B. L. FRANK

Rôle of the Vitamins in Antibody Production.

AXELROD, A. E.: METABOLISM-CLIN. AND EXPER., 2: 1, 1, 1953.

The mechanism of resistance to infection involves numerous factors. The classical antigen-antibody reaction is generally considered to be a significant facet of this complex phenomenon. This paper is concerned with experiments relating vitamin intake to the process of antibody formation. Such studies bear upon the question of the interrelationship between the components of a diet and resistance-susceptibility to infection.

Deficiencies in the following vitamins were produced: pyridoxine, pantothenic acid, riboflavin, thiamine, vitamin A, biotin, pteroylglutamic acid, niacin-tryptophane, vitamin D and vitamin B₁₂. Weanling rats were fed the experimental diets from two to nine weeks, at the end of which time it was clearly evident, by various criteria, that a deficiency state had been produced in the groups receiving deficient diets. Control animals were given the same diet as the corresponding deficient group, plus the crystalline vitamin in question. At the end of the experimental period, all animals were immunized with group O, Rh+, human erythrocytes given by intraperitoneal injection and the resulting serum antibody content was determined by the use of the hæmagglutination technique.

The results obtained made it possible to classify the effects of these deficiencies on circulating antibodies into three groups, as follows: *Group 1*, severe impairment of antibody response caused by pantothenic acid, pyridoxine and pteroylglutamic acid deficiencies; *Group 2*, moderate impairment of antibody response due to riboflavin, thiamine, biotin, vitamin A and niacin-tryptophane deficiencies; *Group 3*, no impairment of antibody response in the presence of vitamin B₁₂ and vitamin D deficiencies. Identical immunological procedures were employed throughout. Instances were observed in which the dietary requirements of a given factor for growth did not parallel its need for antibody synthesis.

This series of experiments indicates that certain vitamins of the B group, notably pyridoxine, pantothenic acid and pteroylglutamic acid, play a significant part in antibody synthesis. There is evidence that pyridoxine is linked to amino acid metabolism, and its participation in antibody production may be related to this function. A corresponding mechanism for the action of pantothenic acid has not yet been demonstrated. A relationship between pantothenic acid and peptide bond formation has been suggested by Chantrenne. The control of antibody formation, by regulating the vitamin intake, offers a useful method in the unraveling of the mechanisms involved in antibody formation. Since antibodies represent a class of specialized proteins, such studies promise to yield information regarding the processes of protein anabolism in general.

B. L. FRANK

OBSTETRICS AND GYNÆCOLOGY

Supine Hypotensive Syndrome in Late Pregnancy.

HOWARD, B. K., GOODSON, J. H. AND MENGERT, W. F.: OBST. AND GYNEC., 1: 371, 1953.

Acute hypotension associated with increased pulse rate, increased femoral venous pressure, pallor and sweating, occurs in about 11% of pregnant women at term if they lie supine for a period of 3 to 7 minutes.

The acute hypotension can be reproduced in the near term pregnant bitch by ligation of the inferior vena cava below the level of the renal veins.

The previously reported increased femoral venous pressure of pregnancy is present *only* when the patient lies supine.

ROSS MITCHELL

Unruptured Interstitial Pregnancy.

HYAMS, M. N.: AM. J. OBST. AND GYNEC., 65: 697, 1953.

A case is reported of unruptured interstitial pregnancy, diagnosed before operation.

Diagnosis is very difficult due to the distensibility of the uterus at the cornu. Pains are labourlike and intermittent. On examination, irregularity of the uterus is best determined during an attack or immediately after. The use of uterine massage or a minimum of pituitrin or ergotrate to produce contraction is advocated as a diagnostic acid. Vaginal bleeding is not significant.

In selected cases, incision of the uterine cornu with removal of the products of conception is advocated rather than excision.

ROSS MITCHELL

INDUSTRIAL MEDICINE

Parathion Exposure and Cholinesterase Response of Quebec Apple Growers.

KAY, K., MONKMAN, L., WINDISH, J. P., DOHERTY, T., PARÉ, J. AND RACICOT, C.: ARCH. INDUST. HYG., 6: 252, 1952.

That parathion can be safely applied under some sets of conditions, has been evident during the past three years. That dangerous conditions exist, however, has also been established and it is now recognized that employee protection and customer safety are important aspects of the manufacture, formulation and application of this compound. At the present time the health protection of the grower who applies this insecticide, in the field, is of prime concern.

Precise data on the relation between parathion exposure and biological effect are required before a differentiation can be made between safe and dangerous conditions. To date the literature, although diversified, has not been adequate to establish a maximum safe level of exposure. In this article the authors present an extensive report of safety research in the field. This study was carried out among workers in Quebec apple orchards; they combine studies of the parathion exposure with the cholinesterase response of the workers for the purpose of establishing ultimately the safe level of exposure. The experiments were carried out in the St. Hilaire-Rougemont orchards. Parathion was sprayed in the concentration 0.75 to 1.5 lb. per 100 gal. of water at the rate of 300 to 400 gal. per acre. The orchards were sprayed for approximately two days at 10-day intervals from early May through June; the hand-type and rock-type mechanical sprayers were employed. There were 34 workers.

After analyzing the results the authors conclude that marginal intoxication was experienced by the exposed

group. It is their opinion that vigorous safety programs at field level can eliminate some of the hazard in the application of this insecticide. MARGARET H. WILTON

*Value of Mass Chest Roentgen-Ray Survey
Methods in Control of Lung Cancer.*

GUISS, L. W.: *CANCER*, 5: 1035, 1952.

In this article the author presents the value of the mass chest x-ray survey as a cancer control measure. In his opinion it is the only way that lung cancer can be discovered while still asymptomatic and in the silent and curable stage. This lead, however, must be properly exploited by prompt clinical investigation and surgical intervention while the patient is still curable. His conclusions are based on information available following a Mass Chest X-ray Survey which took place in a ten-month period ending January 13, 1951, and which included 1,867,201 persons in Los Angeles County.

The organization of the Chest Tumour Registry and the procedure adopted in the follow-up of the chest tumour suspects, are outlined in detail. Tables show the findings. The survey disclosed an incidence rate for tumour suspects of 1.9 per 1,000 examined. One year after its completion, only 4.1% of chest-tumour suspects had been proved to have bronchogenic carcinoma and about twice that figure to have confirmed chest neoplasms of all types. That the final figures would undoubtedly be considerably higher, was suggested. Of the 144 confirmed pulmonary carcinomas, 82 were submitted to surgery. It was of interest that of these 144, only five, or 3.5% were less than 40 years of age.

After analyzing the findings the author draws attention to the fact that there is general lack of appreciation of the necessity for prompt investigation and immediate surgery for lung-neoplasm suspects if cure is to be effected. At the present time the major portion of the potential benefit in discovering early lung cancer in suspects is lost through delay in work-up and treatment. He emphasizes too that from the viewpoint of cancer control such a survey must be repeated every six months.

MARGARET H. WILTON

FORTHCOMING MEETINGS

CANADA

INTERNATIONAL PHYSIOLOGICAL CONGRESS, 19th Congress, Montreal, Canada (Miss MacCallum, Donner Bldg., McGill University, Montreal), September 1-5, 1953.

INTERNATIONAL CONFERENCE ON ALCOHOL AND ROAD TRAFFIC, Second Conference, Hart House, University of Toronto, Toronto, Ontario. (H. David Archibald, Secretary, 9 Bedford Road, Toronto 5) September 9-12, 1953.

BRITISH COLUMBIA DIVISION, C.M.A., Annual Meeting, Vancouver, B.C. (Dr. G. Gordon Ferguson, Exec. Secretary, 1807 West 10th Ave., Vancouver, B.C.) September 21-25, 1953.

CANADIAN PUBLIC HEALTH ASSOCIATION, 41st Annual Meeting, Royal York Hotel, Toronto. (C.P.H.A., 150 College St., Toronto 5) October 1-2, 1953.

INTERNATIONAL ANÆSTHESIA RESEARCH SOCIETY, 28th Annual Congress, Chateau Frontenac, Quebec, P.Q. (Dr. A. William Friend, Chm. Program Committee, 515 Nome Avenue, Akron, Ohio) October 26-29, 1953.

UNITED STATES

INTERNATIONAL CONGRESS OF ELECTROENCEPHALOGRAPHY AND CLINICAL NEUROPHYSIOLOGY, Boston, Mass. (Dr. R. S. Schwab, Secretary-General, Mass. General Hospital, Boston 14, Mass.) August 18-21, 1953.

AMERICAN CONGRESS OF PHYSICAL MEDICINE AND REHABILITATION, 31st Annual Scientific and Clinical Session, The Palmer House, Chicago, Ill. (Executive Offices, 30 North Michigan Ave., Chicago 2) August 31-September 4, 1953.

AMERICAN MEDICAL WRITERS' ASSOCIATION, 10th Annual Meeting, Springfield, Ill. (Dr. Harold Swanberg, Secretary, 209-224 W. C. U. Bldg., Quincy, Ill.) September 23, 1953.

NATIONAL GASTROENTEROLOGICAL ASSOCIATION, 18th Annual Convention, Los Angeles, Calif. (Dr. Samuel Weiss, 146 Central Park West, New York 23, N.Y.) October 12-14, 1953.

AMERICAN PUBLIC HEALTH ASSOCIATION, 81st Annual Meeting, New York, N.Y. (A.P.H.A., 1790 Broadway, New York 19) November 9-13, 1953.

AMERICAN MEDICAL ASSOCIATION, Clinical Session, St. Louis, (Dr. George F. Lull, 535 N. Dearborn St., Chicago 10, Ill.) December 1-4, 1953.

OTHER COUNTRIES

INTERNATIONAL CONGRESS FOR HISTORY OF SCIENCE, Jerusalem, Israel (Prof. R. S. Bodenheimer, President, Hebrew University, Jerusalem, Israel) August 3-7, 1953.

WORLD CONFERENCE ON MEDICAL EDUCATION, British Medical Association House, Tavistock Square, W.C.1, London, England (Dr. Louis H. Bauer, The World Medical Association, 2 East 103rd St., New York 29, N.Y.) August 24-29, 1953.

INTERNATIONAL CONGRESS OF TROPICAL MEDICINE AND MALARIA, Istanbul, Turkey (Prof. Dr. Ihsan Sükrü Aksel, General Secretary, Tunel Meydan, Beyoglu, Istanbul, Turkey) August 28-September 4, 1953.

WORLD MEDICAL ASSOCIATION, 7th General Assembly, The Hague, Amsterdam, Holland (Dr. Louis H. Bauer, Secretary-General, 2 East 103rd St., New York 29, N.Y.) August 31-September 6, 1953.

INTERNATIONAL CONGRESS OF MICROBIOLOGY, 6th Congress, Rome, Italy (Dr. N. E. Gibbons, Secretary, Canadian Society of Microbiology, Division of Applied Biology, National Research Council, Ottawa 2, Ont.) September 6-12, 1953.

WORLD CONFEDERATION FOR PHYSICAL THERAPY, 1st Congress, London, England (Miss M. J. Neilson, Secretary, Chartered Society of Physiotherapy, South Tavistock Square, London, W.C.1, England) September 7-12, 1953.

INTERNATIONAL SOCIETY OF SURGERY, CONGRESS, Lisbon, Portugal. (Dr. L. Desjardin, General Secretary, rue Belliard, Brussels, Belgium) September 14-20, 1953.

INTERNATIONAL CONGRESS OF PÆDIATRICS, Havana, Cuba (Prof. Felix Hurtado, President, 5a Avenue 124, Miramar, Havana, Cuba) October 12-17, 1953.

NEWS ITEMS

BRITISH COLUMBIA

The Vancouver Medical Association's Summer School was held in Vancouver on June 1 to 5, and was a very successful affair. The attendance was in the neighbourhood of 225, and the general consensus was that it was one of the best programs ever presented. The Committee under the Chairmanship of Dr. S. L. Williams, with Dr. John A. Elliot as Secretary, are to be congratulated on their work.

A case of leprosy has recently appeared in Vancouver. A young Chinese, age 22, one year in Canada, was found to have the disease, probably contracted in China. He came here recently from Calgary. He is to be sent, at his own request, to the Bentinck Island Leprosarium, where he will receive treatment. This island is the site of the Federal institution for the isolation and care of lepers, and has discharged two or three patients in the last year or two, cured and ready to go back to ordinary life.

The B.C. Division of the Victorian Order of Nurses recently held their Regional Conference in Vancouver. One of the main topics discussed was the work of the V.O.N. in Civil Defence, and kindred emergencies. The recent "Operation Beware" exercises in B.C., and the program put on by the Registered Nurses' Association early in June, including a demonstration of Civil Defence emergencies and the part played by nurses, are other proofs of the serious attention given by the nursing profession to this matter.

The organization of the September (annual) Convention of the Canadian Medical Association, B.C. Division, is proceeding apace. It should be a notable affair, and a most interesting program is in course of preparation. Sir Charles Symonds of England and outstanding physicians from all parts of Canada will be speakers. The meeting will be held in the Hotel Vancouver, beginning September 23.

The B.C. Division of the C.M.A. has recently made a new departure in the matter of public relations. As most Canadian physicians may know, during the past winter a series of radio programs, called the "Doctor's Viewpoint", has been given weekly by this Division, on all sorts of topics. Recently the *Vancouver Daily Province* and the Division have co-operated in holding "public forums" in the Georgia Street Auditorium. Two of these have been held, the first on June 22 on Heart Disease, and the second on June 29 on Poliomyelitis. The *Province* paid all expenses of these forums, including the auditorium, and attendance was entirely free. The public interest has been most intense, the auditorium being packed to the doors.

The keynote of each forum was a positive, hopeful approach to the subject, the idea being to encourage the public to avoid panic and needless worry, and to make them realize the immense amount of constructive therapy that is available. At each forum (You and Your Health) a panel of representative medical men, especially interested in the subject, conducted a round-table discussion, and the greatest care has been taken to speak in language that any layman can easily understand.

The medical profession of B.C. received with great satisfaction the news of the election of Dr. G. F. Strong of Vancouver to the presidency of the Canadian Medical Association which will meet in B.C. in 1954. We feel that the C.M.A. is to be congratulated too, on its new president, whose past record of performance in this province is a guarantee of a most successful term of office in his new capacity.

Vancouver, where the Canadian Medical Convention will be held next year, has also been honoured in the election by the Canadian Dermatological Association, of three Vancouver men as President (Dr. D. E. H. Cleveland), Vice-president (Dr. D. H. Williams), and corresponding Secretary (Dr. Ben Kanee). The 1954 meeting of the C.D.A. will be held in Vancouver in June.

The completion of the count in the recent Provincial election shows that Dr. Larry Giovando, of Nanaimo, has been elected to the Legislature.

Dr. Giovando represents the Conservative party, and is the only member of that party in the new House.

The Vancouver General Hospital is adding considerably to its equipment for use in polio, especially its respiratory equipment. This is made possible by grants from the federal and provincial governments and from the B.C. Polio Fund. Some \$34,000 worth of new equipment will then be added, and much of it will be available for transport to centres in the province where cases will be picked up and flown to the treatment centre.

The Vancouver Medical Association has been studying the feasibility of establishing an institute for the study of alcoholism, for the past four years. Dr. Iser Steiman, head of the committee in charge of the project, announced lately that a research institute is soon to be established, with a director in charge, presumably medical, and a directorate of non-medical men. Alcoholics Anonymous would be a referral agency, and other sources of information would become available.

At the annual meeting of the Canadian Association of Pathologists, held in Winnipeg during the Session of the Canadian Medical Association, Dr. H. K. Fidler was elected President for the coming year. Their next annual meeting will be held in Vancouver in June, 1954.

J. H. MACDERMOT

MANITOBA

Dr. Colin C. Ferguson has been appointed by the Board of Governors of the University professor of Surgery and chairman of the department of surgery in the University of Manitoba. He succeeds Dr. C. W. Burns. Dr. Ferguson graduated from the Faculty of Medicine, University of Manitoba in 1945, and has done post-graduate work in Montreal, Philadelphia and Boston. In 1948 he won a Harrison scholarship in surgical research at the University of Philadelphia, and in 1951 a research fellowship at the Children's Medical Centre in Boston where he had served as resident in paediatric and cardiovascular surgery. In 1952 he was appointed chief surgical resident at that centre.

Dr. John M. McEachern of Winnipeg has been appointed honorary lieutenant colonel of the Queen's Own Cameron Highlanders of Canada. His father was one of the founders of the regiment. Dr. McEachern was commissioned in the regiment in 1915 and served overseas with the 16th Canadian Scottish and 27th Battalions.

Work has begun on the erection of a five-storey apartment block at Notre Dame Avenue and Emily Street, Winnipeg, immediately west of the Maternity Pavilion which it will resemble in architecture. It will be for the use of staff nurses and when completed will have 51 suites. It will be heated from the hospital's power house.

Dr. D. W. Penner of Winnipeg has been elected secretary-treasurer of the Canadian Association of Pathologists which held its two-day annual meeting at the Royal Alexandra Hotel on June 16 and 17.

The interest taken by the staffs of the Winnipeg General and Children's Hospitals in enlarging and improving accommodation is shown by the action of Woo Hoy, a Chinese cook in the General Hospital. Although he is saving to bring his family from Hong Kong, he gave \$50.00 to the Joint Hospitals Building Fund.

On June 25 a picnic was held at Reston to celebrate the 90th birthday of Dr. A. B. Chapman who graduated from Queen's University in 1899.

Dr. Woods Hicks, formerly of Roblin, Manitoba, and now of Winnipeg, journeyed to Toronto recently on the occasion of the fiftieth anniversary of his graduation from Trinity College.

Dr. Gordon Coghlin joined the staff of Brandon Sanatorium in May.

Dr. and Mrs. F. P. Hulke and family have taken up residence at Clearwater Lake Sanatorium. Dr. Hulke is now a member of the medical staff.

Dr. Takashi Mishima on May 31 left Clearwater Lake Sanatorium where he had been studying procedures in the treatment of tuberculosis to take a short postgraduate course at Saranac Lake. He will then complete his course of studies in Canada at Brandon Sanatorium before returning to his native Japan. ROSS MITCHELL

NEW BRUNSWICK

Dr. H. Rosen, Neurosurgeon of the Saint John General Hospital, addressed the Moncton Medical Society at their May meeting on the subject of "Management of Injuries of the Head and Spine". His audience was gratifyingly large as many physicians from outside parts joined the doctors of Moncton for this meeting.

Dr. Val Zed of the D.V.A. staff at Lancaster Hospital is leaving shortly for a year's postgraduate study in Physical Medicine at Western University, London, Ont.

At the annual staff election at St. Joseph's Hospital, Saint John, Dr. E. A. Petrie was re-elected president of the Medical Board and Dr. Norbert Grant was elected chairman of the Standardization Board for 1953-54.

Dr. G. E. Maddison, Director of Tuberculosis Control in New Brunswick has received his fellowship in the American College of Chest Physicians.

The Saint John Medical Society, at its annual meeting in June, elected the following officers: President, Dr. S. D. Clark; Vice-president, Dr. F. J. Cheesman; Secretary, Dr. G. W. A. Keddy; Treasurer, Dr. H. O. Tonning; Representative to Executive of the N.B. Medical, Dr. F. C. Jennings; Members of Executive—Dr. J. P. McInerney, Dr. J. A. Finley and Dr. A. S. Kirkland.

Dr. F. C. Hazen, District Medical Health Officer for Saint John, is attending a four week postgraduate course in tuberculosis at the Trudeau School of Tuberculosis at Saranac Lake, New York.

Dr. G. E. Maddison, Director of Tuberculosis Control of New Brunswick was chosen president elect of the Canadian Tuberculosis Association at the annual meeting of the Association in Montreal in June.

Dr. Arthur Chaisson, Director of Communicable Disease Control attended the fifth annual Symposium on Venereal Diseases at Washington, D.C. in May.

Hon. Dr. J. F. McInerney, Minister of Health of New Brunswick recently announced that the death rate from tuberculosis in this province for 1952 was 18 per hundred thousand population, the lowest ever recorded in New Brunswick.

Dr. W. A. Farrell, Radiologist at the Victoria Public Hospital, Fredericton announced his departure from Fredericton at the end of July. He intends to retire to Upper Canada. A. S. KIRKLAND

NOVA SCOTIA

Plans are well under way for the centennial of the Medical Society of Nova Scotia to be held in conjunction with the Refresher Course of Dalhousie Medical School from October 5 to 10. Dr. Jim Reid, President of the Nova Scotia Medical Society, and Dr. Bob MacDonald, chairman of the Dalhousie Refresher Course, are working hard with their committees to put on an excellent program.

The annual meeting of the Atlantic Branch of the Canadian Public Health Association was held in the Auditorium of the Victoria General Hospital on June 15 and 16. The program was of general interest to medical practitioners, as well as public health officers. Panel discussions were held on chronic diseases, maternal and infant care.

Dr. Robert O. Jones, Professor of Psychiatry, Dalhousie University, participated in sessions of the American Psychiatric Association convention held in Los Angeles, May 4 to 8. Dr. Jones discussed a paper on "The Rural Practice of Psychiatry" and presented another paper on "Emotional Factors in Performance in Pregnancy".

Dr. A. E. Blackett of New Glasgow, Nova Scotia, was chosen from among nearly 14,000 members of the Canadian Medical Association, to represent Canadian doctors at the coronation. Accompanied by his wife Mrs. Blackett, he left Montreal by T.C.A. for Paris, France, where Dr. Blackett attended the Rotary International Convention which commenced on May 24. On June 2, Dr. and Mrs. Blackett were seated in Westminster Abbey representing the C.M.A., of which Her Majesty the Queen is Patroness.

Nova Scotia physicians attending the annual meeting of the Canadian Medical Association in Winnipeg were Dr. H. G. Grant, dean of the medical faculty, Dr. W. D. Stevenson, Dr. Norman Gosse, Dr. H. I. Goldberg and Dr. Henry Reardon, who was honoured by being appointed Treasurer of the Canadian General Practitioners Association.

Dr. R. J. Murphy, M.D., C.M., Dalhousie 1943, has been elected a Fellow of the Royal College of Physicians of Canada. He is a member of the Department of Medicine of the Royal Victoria Hospital and McGill University of Montreal.

Dr. W. D. Miller, M.D., C.M., Dalhousie 1945, after completing a diploma course in surgery at McGill University, where he also received his master of science degree, has opened an office for the practice of surgery in Saint John.

Dr. Sol Hirsch, M.D., C.M., Dalhousie 1949, has returned to Halifax after spending two and a half years in postgraduate work in psychiatry at the Phipps Clinic of Johns Hopkins Hospital in Baltimore on a Rockefeller Fellowship. He is practising in Halifax.

Dr. Walter Shaw, M.D., C.M., Dalhousie 1948, has been appointed specialist in internal medicine with the Oshawa Clinic in Oshawa, Ontario. C. M. HARLOW

ONTARIO

A study of the effects of air pollution on health is now being carried out in Windsor and Detroit. This study is a result of complaints made to the International Joint Commission over the past few years. Families to be studied represent high, medium and low income groups in high and low pollution areas. Consideration will also be given to the factors of nutrition, medical care, age and family sanitation practice. The area studied runs from Peche Island at the north end of the Detroit River to Grosse Isle at the south end and extends fifteen miles inland on each side of the river. Dr. A. F. W. Peart, chief, Division of Epidemiology, Department of National Health and Welfare, is in charge of the undertaking with Mr. Leo Gignac as the local supervisor.

Dr. George Clarke Brink, Toronto, was given an honorary LL.D. by Queen's University at the medical convocation. Since 1935 director of the division of tuberculosis prevention, Ontario Department of Health, Dr. Brink is regarded as the person chiefly responsible for the efficient control of tuberculosis in Ontario, the province with the lowest tuberculosis death rate in Canada.

The Ontario Cancer Treatment and Research Foundation has set aside \$73,670 for cancer research to be conducted in Ontario centres during the next year. New projects will be started at Hamilton General Hospital directed by Dr. C. H. Jaimet; at Queen's University by Dr. G. M. Brown; at the University of Western Ontario, by Dr. C. G. Drake, Dr. R. L. Noble and Dr. W. C. Sharpe; at St. Michael's Hospital, Toronto, by Dr. C. J. Bardwell. Thirteen projects begun in previous years will be continued, including one under the direction of Dr. Konstanty Maziec at the University of Ottawa.

The construction of a Cancer Institute building at Toronto will soon be started. It will be located on Sherbourne St. adjoining the Wellesley division of Toronto General Hospital. The cost of the institute will be about \$4,200,000 of which the province will put up all but about \$500,000. Equipment worth about \$1,500,000 will be installed. The following units will be used for the treatment of cancer: isotopes, phosphorus, gold, iodine and cobalt; radium, capable of delivering up to 1,500,000 volts; x-ray, up to 2,000,000 volts; two cobalt bombs, each capable of delivering 3,000,000 volts; a linear accelerator, now capable of producing 4,000,000 volts (by the time the institute is completed a 10,000,000 volt accelerator is expected to be in production); a betatron, 15,000,000 to 20,000,000 volts; a cyclotron, 20,000,000 to 30,000,000 volts. It will be necessary to appoint a qualified nuclear physicist to the staff to supervise treatment. Dr. C. L. Ash is the director of the institute. The services are under a medical advisory board with representatives from St. Michael's, Toronto General, the Western and the Hospital for Sick Children.

Three community hospitals in Ontario will share grants totalling \$22,485 from the Atkinson Charitable Foundation to purchase hospital equipment. The hospitals are Norfolk General Hospital, Simcoe, \$9,476; Clinton Public Hospital, \$8,565 and County of Bruce General Hospital, Walkerton, \$4,445.

Dr. John Orr, professor of bacteriology, Queen's University, has been elected a fellow of the Royal Society of Canada.

With so many patients requiring instruction in occupational therapy the number of university trained occupational therapists available has been far too small. To meet this growing need the Ontario Department of Health, in collaboration with the Canadian Association of Occupational Therapy, has planned a series of 12-week courses at the Ontario Hospital, Kingston, two of which have now been completed. The first eight weeks of the course is devoted to classroom instruction and the remaining time is given to field trips to community hospitals and to supervised experience with patients of the Ontario Hospital, Kingston.

The nursing assistants graduated from Sunnybrook Hospital recently. They completed the nine month training in theory and practice required by the Ontario Department of Health, according to the act passed by the Ontario Legislature in 1947, which confers the title of Registered Nursing Assistant and requires registration to be renewed annually. Since the act went into effect 1,200 nursing assistants have been registered for auxiliary nursing in homes and hospitals. Three schools are conducted by the Ontario Department of Health at Toronto, Kingston and Fort William; one by Prince Edward County Hospital, Picton and another at St. Vincent de Paul Hospital, Brockville. Sunnybrook was the first D.V.A. Hospital to undertake the training.

The Banting Medal was presented to Dr. Walter R. Campbell and Dr. Almon Fletcher, University of Toronto, by the American Diabetes Association at the thirteenth annual meeting in New York.

The Canadian Society of Radiological Technicians, Ontario Society of Radiographers and American Society of X-ray Technicians held a convention in Toronto which was attended by nearly 1,000. An award of \$100, a gold medal and both the Canadian and U.S. cups offered in competition were won by Miss Lorraine Crampton, Sunnybrook Hospital, for her display of fluid levels in the paranasal sinuses. Awards for Canadian scientific papers went to Sister Edmund Campion, Nova Scotia; to Burton McBride, Hamilton and Barbara Dunsworth, Hamilton.

The Academy of Medicine entertained the Biological Sciences Division and the Hospital and Nursing Division of the Special Libraries Association, who held their annual convention in Toronto, at a reception and tea in Osler Hall. The delegates were welcomed by Dr. C. W. Harris, president of the Academy. After tea the delegates visited the library, the reading rooms and the museum. LILLIAN A. CHASE

QUEBEC

Establishment of an annual Dandurand-Wright Memorial Lecture was announced June 12 by the Quebec Division of the Canadian Arthritis and Rheumatism Society. It will commemorate the achievements of the late Dr. Henry P. Wright and Dr. Rene Dandurand, both of Montreal, and will be given under the chairmanship of French and English speaking doctors in the fields of rheumatology or internal medicine.

Dr. Dandurand, who died in 1949, was one of the city's pioneers in arthritic diseases and established Montreal's first arthritis clinic at the Hotel Dieu. He was a founding member of the Canadian Arthritis and Rheumatism Society.

Dr. Wright died last year when he was vice-president of the Quebec division, chairman of its medical advisory board and a director of its national C.A.R.S. He started the first arthritis clinic at the Royal Victoria Hospital and later established one at Queen Mary Veterans' Hospital.



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It is hoped that the first lecture will be delivered this fall shortly after the conclusion in September of the International Physiological Congress here, perhaps by one of the delegates to the congress.

Three annual Awards of \$1,000.00 each, to be known as the Mead Johnson Awards for Postgraduate Training in Pædiatrics, are offered to medical graduates who desire to specialize in pædiatrics as announced recently by Dr. G. Lyman Duff, Dean of the Faculty of Medicine at McGill University. The same facilities are extended also to the University of Montreal and Laval University on an equal basis, in order to stimulate the training of pædiatricians in all Quebec teaching centres. Candidates should have completed their general internship and be ready to begin a residency in pædiatrics. If they have already completed a year or more in this specialty, they can be allowed to take an additional year.

The awards for this year have been won by the following: Dr. Hugh Brodie; Dr. Lisbeth Sloman; and Dr. John Elder; all interns at the Children's Memorial Hospital.

Funds for the grants are provided by Mead Johnson and Company, a pharmaceutical firm interested in research in the field of infant nutrition. However, the department of pædiatrics and the Faculty of Medicine of each university will act as trustees of the funds and be solely responsible for the selection of candidates for the awards. It is believed that this significant gesture will focus public and professional attention on the specialty of pædiatrics, and enhance the intra-university prestige of the pædiatric department. Latest census reports show that in Quebec 34.3% of the population is under 15 years of age. This very interesting fact stresses the need for more specialists as well as the scope of the possible field of activity.

The annual meeting of the Canadian Tuberculosis Association was held at the Mount Royal Hotel in Montreal on June 3 to 6. More than 200 delegates were registered. Dr. J. A. Vidal, the president-elect, took office to succeed the president, Dr. E. G. Hingley of Regina. The first day was devoted to a conference of provincial directors, medical superintendents and the executive council, and to meetings of provincial secretaries and rehabilitation officers.

Medical sessions were held during the last three days. It is quite impossible to list all the speakers and the presentations given. Presentations were, however, of excellent quality—the exchange of such information certainly is most stimulating and educational. The last day's session was held at St. Joseph's Sanatorium, Rosemount, under the chairmanship of Dr. Marcel Verschelden of the Sanatorium staff. Following this session the delegates toured the Sanatorium and the Institut Laroisier. An excellent luncheon, as guests of the Sanatorium, closed the convention.

A meeting of the executive committee of the Association of Medical Boards of Hospitals in the Province of Quebec was held in Montreal on June 6. Representatives from nine hospitals were present. Among subjects discussed were pension schemes, sickness insurance, the filling out of certificates for insurance claims and automobile insurance.

The Joint Hospital Fund campaign on behalf of the Montreal General, Children's Memorial and Royal Edward Laurentian hospitals is in full swing. The objective is \$8,450,000 and we all hope sincerely that this will soon be reached, preferably oversubscribed. The medical profession in the city is certainly contributing its share. This is not only evident in the time and effort spent on behalf of the campaign but also in terms of more tangible evidence. Thus Dr. E. Crutchlow recently turned over

to the men's division chairman a cheque for \$103,000. This represents the contribution from the General Hospital doctors' committee. It is in excess of the committee's quota, representing an average gift for each doctor of more than \$570.

It is always a great pleasure to offer congratulations to members of our Division. Foremost this month is the presentation of the Starr Award, highest honour of the Canadian Medical Association, to Dr. Charles F. Martin. Dr. Martin, as we all should know, shares in large part the success achieved by the medical school at McGill University, of which he became dean in 1923. He was largely responsible for founding the Royal College of Physicians and Surgeons in Canada. As president of the C.M.A. in 1923-24, he was elected to senior membership in 1944.

Another in a series of honours has come to Dr. Wilder Penfield, O.M., Director of the Montreal Neurological Institute. He was recently granted the Jacoby award for meritorious research in nervous and mental diseases by the American Neurological Society at its annual meeting held in Atlantic City. Then on July 1 Dr. Penfield received in Oxford, England, an honorary doctorate of civil laws. This presentation was made before an audience composed of scholars from all over the world, including many of the 400 Rhodes Scholars who have studied at Oxford in the last 50 years.

Dr. Walter deM. Scriver, Professor of Medicine, and Dr. C. P. Martin, Professor of Anatomy, have been elected to the McGill Senate to serve for a term of three years each.

A. H. NEUFELD

SASKATCHEWAN

Saskatchewan has received recently five Public Health bursaries from the Federal Government. These are for advanced training. Among the recipients are Dr. J. C. Dundee of Saskatoon and Dr. J. D. Stephen of Regina. Dr. Dundee, the Director of the Poliomyelitis Respiratory Centre at St. Paul's Hospital, Saskatoon, has spent two weeks studying new techniques of polio treatment in Regina, Winnipeg, the Kenny Institute and the University of Minnesota. The bursary for Dr. Stephen will assist with the costs of studies in hæmatology with particular reference to coagulation of blood.

At a recent meeting of the Wadena Union Hospital the Board decided to set up a psychiatric ward in the hospital annex to avoid disturbance of other patients. Wadena is a 60 bed hospital.

Dr. M. G. Israels recently reported to the Board of the Regina General Hospital on the marked success of the newly introduced Intern Training Program. This program, as previously reported in this section of the C.M.A. Journal, is rather unique in Canada and is patterned on the system in vogue in several U.S. hospitals. One immediate aim is that of inviting one outside speaker per month to speak at the hospital.

Dr. S. R. Laycock, retiring Dean of Education at the University of Saskatchewan, has been presented with a bound volume of letters from a thousand alumni in all parts of the world. This presentation was made at the annual reunion banquet.

The Catholic Hospital Conference of Saskatchewan at its 11th Annual Meeting re-elected Rev. L. M. Laurentia of the Providence Hospital, Moose Jaw, as president. Over 60 delegates and visitors attended representing 22 Catholic hospitals in the province and four allied agencies.

G. W. PEACOCK



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NEWS OF THE MEDICAL SERVICES

Canadian Armed Forces

Surgeon Captain E. H. Lee, Medical Director General of the Royal Canadian Navy was awarded the position of Queen's Honorary Physician by Her Majesty, Queen Elizabeth II in her Coronation Honours List June 1, 1953.

Representing the R.C.N. Medical Services at the C.M.A. Annual Meeting in Winnipeg, June 15 to 19, were Surgeon Captain E. H. Lee, Medical Director General of the R.C.N., Ottawa; Surgeon Commander M. Wellman of the R.C.N. Hospital, Esquimalt, B.C., and Surgeon Lieutenant Commander P. C. Jones of the R.C.N. Hospital, Halifax, N.S.

Recent honours of the Most Venerable Order of the Hospital of St. John of Jerusalem included Surgeon Captain Lee, Medical Director General, R.C.N., who was made an Officer Brother, and Surgeon Captain T. B. McLean, Deputy Medical Director General, R.C.N., who became a Serving Brother.

Her Majesty, The Queen, on the advice of her Canadian Ministers, has been graciously pleased to approve the appointment of Brigadier K. A. Hunter, O.B.E., C.D., M.D., Royal Canadian Army Medical Corps, as Queen's Honorary Physician, and Colonel L. C. Montgomery, O.B.E., M.C., M.D., C.M., F.R.C.P.[C.], as Queen's Honorary Surgeon. Both these appointments are for a period of three years. Her Majesty has also approved the promotion of Brigadier Hunter to the grade of Officer Brother and the appointment of Brigadier J. N. B. Crawford, M.B.E., E.D., M.D., to the grade of Serving Brother in the Most Venerable Order of the Hospital of St. John of Jerusalem.

Brigadier K. A. Hunter, O.B.E., C.D., Q.H.P., R.C.A.M.C., Director General of Medical Services (Army), accompanied by Colonel J. E. Andrew, E.D., R.C.A.M.C., Senior Consultant attended the 84th Annual Meeting of the Canadian Medical Association held at Winnipeg. Prior to the meeting they visited medical units in Saskatchewan and Manitoba.

Colonel G. L. M. Smith, O.B.E., C.D., has been promoted from Officer of the Order of the British Empire to Commander for his distinguished service in Korea as A.D.M.S. 1st British Commonwealth Division. Lt.-Col. R. A. Smillie has been appointed a Member of the Order of the British Empire for outstanding service as Commanding Officer, 37 Field Ambulance. Captain (Matron) E. B. Pense, presently serving in Korea, has been awarded the R.R.C. (1st Class). The R.C.A.M.C. has been especially honoured by the official recognition of the services of these outstanding officers.

The medical care of our troops in Korea has been supplemented by the addition of a dietitian and a physiotherapist to the staff of the Field Dressing Station. This unit which originally functioned as an evacuation centre at Seoul moved into the field to provide additional medical care for the divisional troops. It has a longer holding policy and as a result it is now possible to retain in Korea all but the most serious cases. This unit now assumes the appearance of a small hospital and has on its staff, in addition to the dietitian and physiotherapist, four nursing sisters recently posted from Canada. This brings the total number of Canadian nursing sisters serving in the Far East to thirteen.

Air Commodore A. A. G. Corbet, E.D., B.A., M.D., C.M., F.A.M., Director of Medical Services (Air), and Air Commodore J. W. Tice, C.B.E., E.D., M.B., F.A.C.P., R.C.A.F. (Reserve), have been appointed Honorary Physician and Surgeon to the Queen, respectively.

A mass chest x-ray survey on all R.C.A.F. personnel commenced July 1 and will be conducted until the latter part of November 1953. Wing Commander J. A. Sifton, medical officer in charge of the survey, will be located at R.C.A.F. Station London, Ont. and will screen all films taken. All equipment used on this survey is from existing stocks in the R.C.A.F.

Wing Commander J. A. Sifton, Senior Medical Officer Station Hospital, R.C.A.F. Station Rockcliffe was transferred to R.C.A.F. Station London, Ontario, July 1, 1953, and Wing Commander E. O'F. Campbell, Senior Medical Officer Air Force Headquarters, Medical Inspection Room was transferred to Station Rockcliffe to assume duties as Senior Medical Officer on July 1, 1953.

Her Majesty the Queen has been graciously pleased to sanction the appointment of Group Captain B. R. Brown, Training Command, Trenton, Ont., to be Serving Brother of the Venerable Order of the Hospital of St. John of Jerusalem.

NEWS AND NOTES

LIFE INSURANCE MEDICAL RESEARCH FUND RESEARCH FELLOWSHIPS AND GRANTS

Applications for awards available July 1, 1954, will be received by the Life Insurance Medical Research Fund as follows: (1) Post-doctoral research fellowships, until October 31, 1953. Preference is given to those who wish to work on cardiovascular function and disease or related fundamental problems. Stipends vary from \$3,300 to \$4,500. (2) Grants to institutions in aid of research on cardiovascular problems, until November 15, 1953. Support is available for physiological, biochemical, and other basic work broadly related to cardiovascular problems as well as for clinical research in this field. Further information and application forms may be obtained from the Scientific Director, Life Insurance Medical Research Fund, 345 East 40th Street, New York 17, N.Y.

The next scheduled examination (Part I), written examination for candidates for the American Board of Obstetrics and Gynecology will be held in various cities of the United States and Canada on Friday, February 5, 1954.

All candidates for admission to the examinations for certification by the Board are required to submit with their application, a plain typewritten list of all patients admitted to the hospitals where they practice, for the year preceding their application or the year prior to their request for reopening of their application, with the diagnosis, pathological diagnosis, nature of treatment, and end result.

Twenty-five case abstracts are due immediately after notification of eligibility and are to be sent by the candidate to the Secretary. Attention of all candidates is called to a change in date. Application for examination or re-examination, as well as requests for resubmission of case reports, must be made to the Secretary prior to October 1, 1953. Requests for application forms for Appraisal of Incomplete Training, for certification, and Bulletins should be accompanied by a large stamped, self-addressed envelope and mailed to: Robert L. Faulkner, M.D., Secretary, American Board of Obstetrics and Gynecology, 2105 Adelbert Road, Cleveland 6, Ohio.

(Continued on page 54 of the advertising section)

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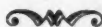
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BOOK REVIEWS

THE PHYSICIAN'S GUIDE TO
CHEMOTHERAPY

P. N. Swift, Physician, Children's Department, Farnborough Hospital; Paediatrician, All Saints' Hospital, Chatham. 176 pp. 15s net. H. K. Lewis & Co. Ltd., London, 1952.

In this little book emphasis has been laid on bacteriology, for the author feels that antibiotic therapy must be based upon a knowledge of the infecting micro-organism. Pharmacological data, as far as they govern the use of chemotherapeutic agents are included. When two or more drugs are known to be effective and the choice has to be made, the reasons for placing them in order of preference are given. While the author has had ample experience with the sulfonamides and penicillin, some of the newer drugs, such as aureomycin, chloramphenicol, polymyxin and terramycin, will have to be subjected to further study before a final analysis of their value in some diseases can be made.

The importance of general resistance of the host in the absence of chemotherapy is recognized. Antibacterial therapy should work in conjunction with the defence mechanisms of the host by reducing the bacterial population, thus facilitating effective phagocytosis and lysis, which are the processes responsible for the final disposal of pathogens. However potent a therapeutic agent may be, a favourable response can not be expected if the defences of the host are weak or impaired. The Physician's Guide succeeds in its objective: to offer in a brief, concise manner guidance to the practicing physician.

HUMAN FACTORS IN AIR
TRANSPORTATION

R. A. McFarland, Associate Professor of Industrial Hygiene, Harvard School of Public Health. 830 pp. illust. \$16.25. McGraw-Hill Book Company, Inc., New York, Toronto, London, 1953.

The scope of this book is very broad. The training, indoctrination and maintenance of physical and mental health of air crews and ground personnel are discussed in detail. But it is not confined to the conventional stuff of Aviation Medicine. The author moves on boldly to apply the broad principles of public health to air transportation. He concerns himself with problems of sanitation and quarantine, with the care and contentment of healthy passengers and the transport of patients by air. He concludes with a discussion of the organization and functions of air transport medical services. Each chapter contains a wealth of detailed information. Happily, the author does not hesitate to interpret this in the light of his extensive experience. Moreover he makes specific recommendations whenever he considers them justified. A useful summary and list of references follows each chapter. The index is excellent.

The whole work assumes the proportions of a text book. As such it should be of great value to the civilian and military medical officers and administrators from whom we expect informed leadership towards improved health and safety in this dynamic air age.

ANATOMY OF THE AUTONOMIC
NERVOUS SYSTEM

G. A. G. Mitchell, Professor of Anatomy and Director of the Anatomical Laboratories in the University of Manchester. 356 pp. illust. \$10.50. E. & S. Livingstone Ltd., Edinburgh and London; The Macmillan Company of Canada, Toronto, 1953.

The foreword has been written by Professor Learmonth, who observes that Professor Mitchell has been publishing papers on the anatomy of the autonomic system for nearly twenty years. More important, Prof. Learmonth is convinced of the accuracy of the author's observations; he has had plenty of opportunity over the years, to watch his colleague in his painstaking work, carried out with infinite patience and delicate skill. The work is primarily concerned with the anatomy of man, and it is assumed that the reader possesses a general knowledge of neuro-anatomy; but the author recognizes that the study of structure cannot be divorced from morphological, embryological, histological, physiological and clinical considerations, and he utilizes information from such sources, where it helps to explain certain points. The views expressed are occasionally somewhat unorthodox, and certainly provocative. The book is an important contribution; it is thought provoking, and its careful study may be warmly recommended. The illustrations are of a high standard; the author has been fortunate in having the co-operation of Miss Davison, an artist, whose work is accurate and faultless. The text and figures supplement each other admirably, and the book may be used either as a source of reference or to verify some difficult anatomical point. It will be valuable to anatomists and to practising surgeons.

SHOCK AND CIRCULATORY
HOMEOSTASIS.

Transactions of the First Conference October 22-23, 1951, New York. Edited by H. D. Green, Professor of Physiology and Pharmacology, Bowman Gray School of Medicine, Wake Forest College, Winston-Salem, North Carolina. 245 pp. illust. \$3.50. Josiah Macy, Jr. Foundation, New York, 1952.

Following the end of the war in 1945, interest in shock waned until Korea revived activity in this field. This is the record of the first of a new series of conferences which the Macy Foundation introduced on this subject. The conference was attended by visitors from overseas and also by representatives of the Armed Forces. Under the chairmanship of Ephraim Shorr the following subjects were discussed: Humoral Vasoactive and other Metabolic Derangements in Shock; The Nervous System in Shock; Acute and Chronic Hypotension After Haemorrhage in Man; The Infectious Element in Shock; The Therapeutic Implications of Current Concepts of Shock. Of outstanding interest is Dr. Zweifach's contribution based on experiments carried out over the past ten years; his observations concerning the "tone" of the capillary wall will be of interest to most clinicians. Dr. Moore's discussion of the therapeutic implications is of equal importance; his findings in surgical patients do not indicate the appearance of frank adrenal insufficiency in acute trauma.

This is a stimulating record of a two-day discussion of the problems of shock which is thought-provoking and instructive.

VISUAL ANATOMY THORAX AND
ABDOMEN

S. M. Friedman, Professor of Anatomy, University of British Columbia, Vancouver, Canada. Formerly, Associate Professor of Anatomy, McGill University, Montreal. 203 pp. illust. \$12.50. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1952.

This second volume of Dr. Friedman's book continues his unusual and impressive method of illustrating anatomy. Seldom does one find in anatomical illustrations such rigid adherence to carefully selected points, and to crown this, such excellence of illustration itself. A Canadian Vesalius indeed is come among us! Fortunately, however, Dr. Friedman's accompanying text is more intelligible to us than that of Vesalius. Anatomy is herein made pleasantly clear.

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PHYSICS AND MEDICINE OF THE
UPPER ATMOSPHERE

C. S. White, Director of Research, Lovelace Foundation for Medical Education and Research. Head of a section of Aviation Medicine Lovelace Clinic and O. O. Benson, Brigadier General, USAF (MC). Commandant, USAF School of Aviation Medicine. 611 pp. illust. \$10.00. The Lovelace Foundation for Medical Education and Research, Albuquerque, New Mexico; The University of New Mexico Press, Albuquerque, New Mexico, 1952.

Interest in the problems of flight in space has gained considerable momentum since World War II. In the United States, this momentum has been given added impetus by the presence there of scientists from Germany, many of whom had participated in such projects as the development of the German V2 rocket. This book is a report of a symposium (the third such in the U.S.A.) in which the contribution of these scientists is evident and important. General Harry G. Armstrong, Surgeon General U.S.A.F., makes an excellent point in his Foreword, that aviation medical research in this area (space medicine) at least, should be completed prior to the time the aeronautical engineer first sits down to his drawing board. Ample evidence is provided of how far planning can proceed, how many difficulties may be foreseen and forestalled through team work among scientists in astrophysics, aeronautical engineering, radiobiology and aviation medicine.

A few chapter headings will indicate the scope of the book: Physical Characteristics of the Upper Atmosphere of the Earth; Thermal Aspects of Travel in the Aeropause—Problems of Thermal Radiation, Gravity, Inertia and Weight; Meteoritic Phenomena and Meteorites; The Nature and Intensity of the Cosmic Radiation; Known and Predicted Problems of Human Travel in the Aeropause; Physiological Limitations in Cabin Environment and Human Adaptations. *Aeropause* is introduced as a new and useful term. It suffers from having no single, clear definition, and its application appears to differ according to the scientific discipline of the user. As a term embodying a "sliding scale concept" for the functional boundaries of the atmosphere (as these relate to man), it seems to contribute little more than the term "vertical frontier" embodies.

There is a feast of stimulating reading in this volume, and the editors are to be congratulated on their competence in managing such a complex task.

(A much smaller volume, *Space Medicine* (edited by John P. Marbarger, 83 pp. University of Illinois Press, 1951) provides an attractive and more than adequate introduction to this fascinating subject, for those who do not require so much detail.)

MUSCLE RELAXATION

G. Garmany, Physician to Psychiatric Department, Westminster Hospital, Physician to Psychiatric Department, Westminster Children's Hospital. 65 pp. 5/6 net. The Actinic Press, London N. W. 6, 1952.

Conscious relaxation of tense muscles may be an important factor contributing to the therapeutic success of psychotherapy. Already, more than twenty years ago, the Heyers in Munich recognized that the duration of treatment in some cases could be materially shortened, and its course facilitated, by active "relaxation therapy"; while the patient was undergoing psychiatric treatment by one of them, the other taught him how to relax and breathe.

Although this little book appears in the "Physical Medicine Series", it is of great interest to psychiatrists and may be read with interest by all who are interested in bodily symptoms as an expression of anxiety. There are some useful hints on how to produce relaxation, the indications and difficulties of this treatment, and its limitations.

THE UNIPOLAR ELECTROCARDIOGRAM

J. M. Baker, Cardiologist, Yater Clinic, Associate Professor of Clinical Medicine and Special Lecturer in Physiology, Georgetown University School of Medicine. 655 pp. illust. \$12.50 (U.S.A.). Appleton-Century-Crofts, Inc., New York, 1952.

Few students even today are aware that there is more to electrocardiographic interpretation than the memorizing of patterns. It should be an embarrassment to their teachers that this purely empirical approach is still in vogue so many years after Sir Thomas Lewis demonstrated the significance of intrinsic deflections. That it is so undoubtedly stems from the difficult many cardiologists have experienced in comprehending the theoretical implications of semi-direct leads. To all such this book should be a boon.

The dedication, preface and foreword bear witness to the Author's debt to his mentor the late Frank N. Wilson; indeed the life work of the master forms the central theme of this very creditable attempt to translate into easily understood form the content of Wilson's often formidable scientific theory. To this end excellent use has been made of original and well contrived diagrams and an abundance of records to illustrate the text. The early chapters on the fundamentals of electro-physiology provide a valuable introduction to the systemic application of these principles to the interpretation of clinical records. Considerable effort is made to bridge the gap between theory based on experimental and mathematical considerations and routine electrocardiography. As would be expected the major part of the text deals with ventricular events as recorded by precordial leads. A comprehensive treatment of the cardiac arrhythmias rounds out the volume which contains a satisfactory bibliography and an adequate index.

Experts will assuredly disagree with some assumptions related in particular to the question of "zero potential" and to "the Potential Variations of the Extremities". Something too is lost by a neglect to provide precise references for and against theories under discussion. This is a detriment because it will be difficult for the uninitiated to know when the author is presenting a well balanced case and when he is expounding a favoured or partisan concept. On the other hand the earnest student will find much that will excite and instruct him in the wealth of interpretative data to be gleaned from a study of "unipolar" electrocardiography.

THE HISTORY AND DEVELOPMENT
OF NEUROLOGICAL SURGERY

E. Sachs, Research Associate in Physiology, Yale University, New Haven; Formerly Professor of Clinical Neurological Surgery, Washington University School of Medicine, St. Louis. 158 pp. illust. \$5.00. Paul B. Hoeber Inc., New York, 1952.

This brief monograph presents the history and development of neurological surgery from the first records dating back to the earliest trephining procedures carried out in the neolithic period, up until the most modern developments. An interesting and concise account is given of the significant landmarks and of the men who made valuable contributions during each period. Operative records and specimens are described from the Egyptian, Greek, Roman and Arabic periods. Particular emphasis is placed upon the development of neurological surgery in the past twenty-five years, especially in America. As a result of the tremendous progress made during this latter period, the author has presented only the highlights of modern neurological surgery with a brief historical account of many of the present day operative procedures.

The entire story is recorded in an interesting manner and is supplemented by excellent illustrations and a very good bibliography. This book should be of special interest to all students of neurology and neurological surgery.

Books Received

Books are acknowledged as received, but in some cases reviews will also be made in later issues.

Textbook of Medical Treatment. Edited by D. M. Dunlop, Professor of Therapeutics and Clinical Medicine, University of Edinburgh; L. S. P. Davidson, Physician, H.M. The Queen in Scotland; Professor of Medicine and Clinical Medicine, University of Edinburgh; and Sir J. McNee, Physician, H.M. The Queen in Scotland; Regius Professor of Practice of Medicine, University of Glasgow. 1023 pp., illust., 6th ed. \$9.50. E. & S. Livingstone Ltd., Edinburgh and London; The Macmillan Company of Canada Ltd., Toronto 2, 1953.

The Surgery of Pancreatic Neoplasms. R. Smith, Surgeon, St. George's Hospital, London; Examiner in Surgery, University of London; Hunterian Professor, Royal College of Surgeons. 167 pp., illust. \$6.75. E. & S. Livingstone Ltd. Edinburgh and London; The Macmillan Company of Canada Ltd., Toronto 2, 1953.

Mid-Century Psychiatry. R. R. Grinker, Director of Institute for Psychosomatic and Psychiatric Research and Training, Michael Reese Hospital, Chicago, Illinois. 183 pp. \$6.00. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1953.

Familial Nonreaginic Food-Allergy. A. F. Coca, Oradell, New Jersey. 279 pp. Revised and Enlarged 3rd Edition. \$11.50. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1953.

Biological Hazards of Atomic Energy. Edited by A. Haddow. 225 pp., illust. \$7.00. At The Clarendon Press, Oxford; Oxford University Press, Toronto 2, 1952.

Pain Syndromes and Their Treatment. J. M. Tarsy, Chief, Arthritis Clinic, University (New York Postgraduate) Hospital, New York University-Bellevue Medical Center. 592 pp., illust. \$13.25. Charles C. Thomas, Springfield, Illinois; The Ryerson Press, Toronto, 1953.

Clinical Investigation. E. H. Stokes, Senior Honorary Physician, Sydney Hospital; Honorary Lecturer in Medicine and Lecturer in Clinical Medicine, University of Sydney. 628 pp., illust. £5/5/- . Angus and Robertson Ltd., Sydney. 1953.

Diseases of the Chest. Edited by Sir G. Marshall, Consulting Physician, Guy's Hospital, Brompton Hospital, and King Edward VII Sanatorium, Midhurst, Sussex; and K. M. A. Perry, Assistant Physician, The London Hospital; Visiting Physician, Papworth Village Settlement, Cambridge. Vol. 1, 456 pp., illust., Vol. 2, 413 pp., illust. \$26.50. Butterworth & Co. (Canada) Ltd., Toronto, 1952.

Cardioscopy. W. Evans, Physician to the Cardiac Department of the London Hospital, to the National Heart Hospital, and to the Institute of Cardiology; Consulting cardiologist to the Royal Navy. 143 pp., illust. \$7.25. Butterworth & Co. (Canada) Ltd., Toronto 6, 1952.

Operative Gynecology. R. W. Te Linde, Professor of Gynecology, Johns Hopkins University and Chief Gynecologist, Johns Hopkins Hospital. 902 pp., illust., 2nd ed. \$20.00. J. B. Lippincott Company, Montreal, 1953.

Radiations and Living Cells. F. G. Spear, Member, Scientific Staff, Medical Research Council, Strangeways Research Laboratory, Cambridge. 222 pp., illust. Price 18s. Chapman & Hall Ltd., London WC2, 1953.

Parkinson's Disease and Its Surgical Treatment. L. C. Oliver, Neurosurgeon; West End Hospital for Nervous Diseases, London; Royal Northern Hospital. 87 pp., illust. 12s. 6d. H. K. Lewis & Co. Ltd., London WC1, 1953.

Direct Analysis. J. N. Rosen. 184 pp. \$4.25. Grune & Stratton, New York; The Ryerson Press, Toronto, 1953.

Gastric Cancer. A. H. Iason, Attending Surgeon, Adelphi Hospital; Director of Surgery, Brooklyn Hospital for the Aged. 216 pp., illust. \$8.25. Grune & Stratton, New York; The Ryerson Press, Toronto, 1953.

Aids to Medical Diagnosis. G. E. Frederick Sutton, Physician, United Bristol Hospitals; Clinical Teacher in Medicine, University of Bristol. 345 pp., illust., 7th ed. \$1.45. Baillière, Tindall and Cox, London WC2, The Macmillan Co. of Canada Ltd., Toronto 2, 1953.

Local Analgesia: Abdominal Surgery. R. R. MacIntosh, Nuffield Professor of Anaesthetics, University of Oxford; Civilian Consultant in Anaesthetics, Royal Air Force, and R. Bryce-Smith, First Assistant, Nuffield Department of Anaesthetics, University of Oxford; Anaesthetist, United Oxford Hospitals. 94 pp., illust. \$4.35. E. & S. Livingstone Ltd. Edinburgh and London; The Macmillan Co. of Canada Ltd., Toronto 2, 1953.

Comroe's Arthritis. Edited by J. L. Hollander and others. 1103 pp., illust., 5th ed. \$17.50. Lea & Febiger, Philadelphia; The Macmillan Co. of Canada Ltd., Toronto, 1953.

Thoracic Surgical Management. J. R. Belcher, Consultant Surgeon at the London Chest Hospital, and I. W. B. Grant, Assistant Physician, Edinburgh Northern Hospitals, and Royal Victoria and associated Hospitals. 196 pp., illust. \$3.00. Baillière, Tindall & Cox, London; The Macmillan Co. of Canada Ltd., Toronto, 1953.

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Modern Treatment Year Book 1953. Edited by Sir C. Wakeley, Fellow of King's College, London, President of the Royal College of Surgeons of England. 348 pp., illust. \$4.00. Baillière, Tindall & Cox, Ltd., London; The Macmillan Co. of Canada Ltd., Toronto, 1953.

Roentgen, Radium and Radioisotope Therapy. A. J. Delario, Member of the American College of Radiology, American Board of Radiology. 371 pp., illust. \$8.25. Lea & Febiger, Philadelphia; The Macmillan Co. of Canada Ltd., Toronto, 1953.

Neurophysiological Basis of Mind. J. C. Eccles, Professor of Physiology, the Australian National University, Canberra. 314 pp., illust. \$4.50. Oxford University Press, London, Toronto 2, 1953.

The Conception of Disease. W. Riese. 120 pp. \$3.75. Philosophical Library, New York, 1953.

The Principles of Nutrition for Practitioners and Students. C. F. Brockington, Professor of Social and Preventive Medicine, University of Manchester. 137 pp. \$3.50. William Heinemann Medical Books Ltd., London; British Book Service (Canada) Ltd., Toronto, 1952.

The Cancer Patient. B. A. Meyer and I. S. Orgel. 87 pp., illust. \$1.50. J. & A. Churchill, Ltd., London; British Book Service (Canada) Ltd., Toronto, 1950.

Human Actinomycosis. V. Z. Cope, Consulting Surgeon, St. Mary's Hospital and the Bolingbroke Hospital. 80 pp., illust. \$3.00. William Heinemann Medical Books Ltd., London; British Book Service (Canada) Ltd., Toronto, 1952.

Lectures on The Scientific Basis of Medicine. Volume I, 396 pp., illust. 30s. The Athlone Press, London, WC2, 1953.

From The Workshop of Discoveries. O. Loewi, Research Professor of Pharmacology, New York University College of Medicine. 62 pp. \$2.00. University of Kansas Press, Lawrence, Kansas, U.S.A., 1953.

Bodily Physiology in Mental and Emotional Disorders. M. D. Altschule, Assistant Professor of Medicine, Harvard Medical School, Boston; Director of Internal Medicine and of Research in Clinical Physiology, McLean Hospital, Waverley. 228 pp. \$5.75. Grune & Stratton, New York; The Ryerson Press, Toronto, 1953.

Working Conference on Nursing Education. World Health Organization: Technical Report Series, No. 60. 30 pp. \$0.20, 1/6, Sw. fr. 0.80. World Health Organization, Palais des Nations, Geneva, February 1953.

JOURNAL OF

Canadian Medical Association

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General Secretary's office—135 St. Clair Ave. W., Toronto

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Papers should be kept below 4,000 words wherever possible. Whilst not necessarily a cause for rejection, excessive length of an article is undesirable.

References: in the case of a journal arrange as follows: author (JONES, A. B.), title, journal, volume, page, year. In the case of a book: WILSON, A., Practice of Medicine, Macmillan, London, 1st ed., p. 120, 1922.

Illustrations: A limited number will be accepted. Photographs should be clear: drawings should be in india ink on white paper. All unmounted. Legends to be typed separately.

Reprints: May be ordered upon forms sent with galley proofs.

News: The Editor will be glad to consider any items of news that may be sent in by readers.

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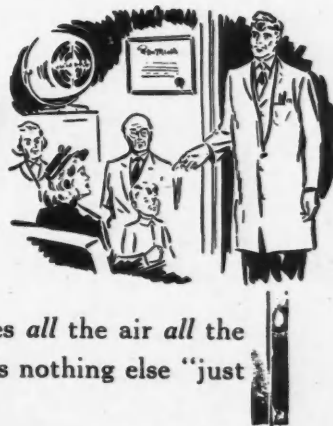
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From the *Journal* of August, 1923

(From the Presidential Address by Dr. E. R. Secord, of Brantford, Ont.)

. . . "It has been felt for some time that we should have here in Canada some mark or degree to signify the attainment of higher qualifications in the lines of specialized work. It has been felt, for instance, that one holding himself out as a specialist in surgery should present evidences of his fitness. The Fellowship of the Royal College of Surgeons of England, is perhaps beyond the financial ability of many of our younger men, while that of the American College of Surgeons has not, strictly speaking, confined itself to the purposes which was originally said to be its intent.

"Efforts have been made to arouse interest in a Canadian institution, founded more on the lines of the former than of the latter, and perhaps affiliated therewith. If this association, or perhaps better, the Canadian Medical Association, should actively interest itself in the organization of some such a body, and should, as part of its effort, include the distribution of recent graduates as interns to those hospitals which offer sufficient scientific and clinical training, and still further should arrange that this latter training would form a stepping-stone to a higher degree indicative of merit, many of these problems would be on a fair way to solution. I understand that the Canadian Medical Association already has a committee to consider these matters, and I trust that their efforts will eventually be crowned with successful accomplishment."

GENERAL NEWS

"Dr. T. Clarence Routley, General Secretary of the Canadian Medical Association, represented that Association at the American Medical Convention at Los Angeles. He returns via the Canadian Rockies to attend medical meetings in Victoria, Vancouver, Calgary, Saskatoon and Winnipeg."

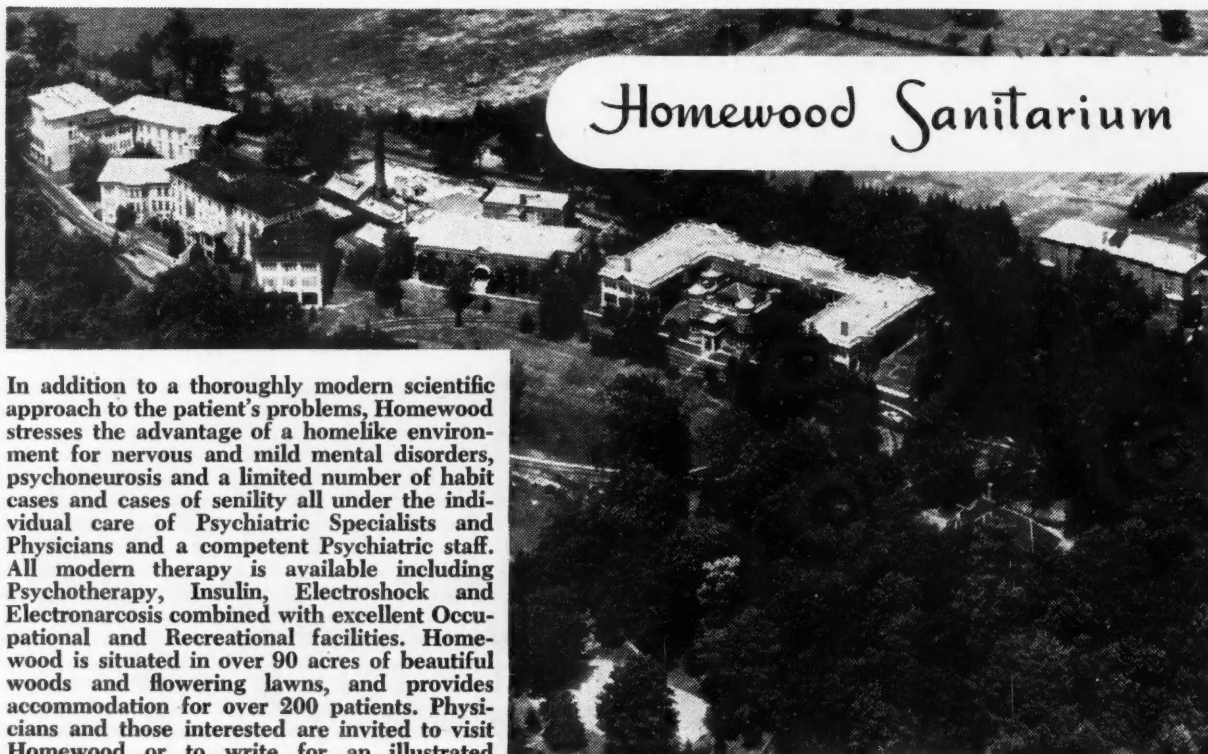
NEWS ITEMS—Nova Scotia

"A very important and interesting suggestion has recently been brought to the notice of the Medical Faculty of Dal-

housie University, looking towards the establishing of a summer school in Medicine. It is felt by some that such a scheme would be workable, and would fill the proverbial 'long-felt want'. Halifax is an ideal summer city. The temperature is rarely above eighty degrees, and the nights are always cool. Then, the outdoor attractions are great. Fishing, sailing, motor-ing, and golf can be indulged in to one's heart's content. Some members of the medical fraternity are in the habit of spending the holiday season in the Maritime Provinces. Perhaps such, together with others, might be induced to come to Halifax for a month, giving a few lectures or clinics, and spending the balance of the time in relaxation. Probably, the bulk of the teaching would be done by the local men, but members of the teaching staffs of other universities, and distinguished visitors, would, it is hoped, take part. It is not intended that this should be a Dalhousie affair, but all Canadian universities could in time be included. It is an all-Canadian scheme, by Canadians, and for Canadians. Nor need the plan stop with medical instruction. The Faculties of Arts, Law, Dentistry, Agriculture, and Music, might in time be included. Thus, a very big thing may develop out of small beginnings. The idea, at least, is alluring."

NEWS ITEMS—Alberta

"Physicians from various points in southern Alberta had the privilege of attending at Calgary on July 9 and 10, interesting and instructive lectures and clinics by Dr. F. W. Marlow, associate Professor of Gynaecology, Toronto University, and by Dr. F. J. Tees, lecturer in clinical surgery, McGill University. They also heard Dr. T. C. Routley, who spoke on behalf of the Canadian Medical Association, of which he is the General Secretary . . . He made a strong appeal to the physicians of Alberta to stand behind and support this Association as a national organization; at no time in the history of Canadian medicine did we need unity and co-ordination of purpose as at present. Those present heartily endorsed those views. Undoubtedly meetings such as these held in different centres of each province throughout Canada will do much to solidify and weld the component parts of the Canadian Medical Association."



Homewood Sanitarium

In addition to a thoroughly modern scientific approach to the patient's problems, Homewood stresses the advantage of a homelike environment for nervous and mild mental disorders, psychoneurosis and a limited number of habit cases and cases of senility all under the individual care of Psychiatric Specialists and Physicians and a competent Psychiatric staff. All modern therapy is available including Psychotherapy, Insulin, Electroshock and Electronarcosis combined with excellent Occupational and Recreational facilities. Homewood is situated in over 90 acres of beautiful woods and flowering lawns, and provides accommodation for over 200 patients. Physicians and those interested are invited to visit Homewood or to write for an illustrated Folder to:

A. L. MacKINNON, M.B., Medical Supt.

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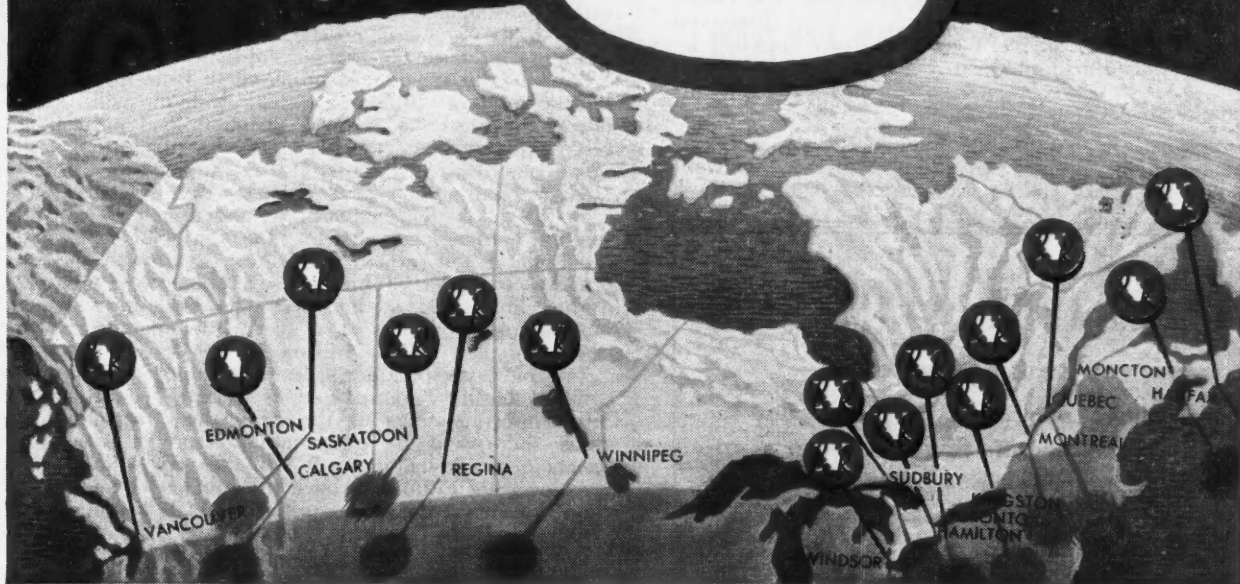
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261 Davenport Road, Toronto 5

A complete supply of Medical
Radium, accessories and
applicators



NEWS AND NOTES

(Continued from page 192)

SECOND INTERNATIONAL
CONGRESS OF CARDIOLOGY

The Second International Congress of Cardiology will be held in Washington, D.C., September 12 to 15, 1954. It will be immediately followed by the annual Scientific Sessions of the American Heart Association, September 16 to 18, 1954. The opening session will be held in Constitution Hall on September 12, followed by a reception at the Mayflower Hotel for all Members of Congress and their families. A banquet will be held September 15, 1954 at 7.30 p.m. The Scientific Sessions lasting three days will include formal papers, panel discussions, clinical pathological conferences and visits to important medical centres in Washington and Bethesda. The program will be printed in French, Spanish and English. Immediate translation of some of the papers and discussions will be made in three languages.

A series of Post-Congressional visits and conferences to at least 20 of the leading cardiac clinics in different parts of the U.S. and Canada has been arranged by special committees of local Heart Associations in the various cities.

THIRTY-TWO PHYSICIANS WIN
AWARDS AT NINTH ANNUAL ART
SALON, WINNIPEG

The North Lobby of the Royal Alexandra Hotel in Winnipeg became a temporary art gallery during the recent C.M.A. Convention, June 15 to 19. There, more than 800 paintings, photographs, and colour transparencies attracted a throng of delegates and the Winnipeg public throughout convention week. The entries, all created by Canadian physicians and medical undergraduates, made up the largest salon in the nine year history of this unusual competition. Paintings and photographs were displayed on interlocking wooden panels while colour slides were projected almost continually on a large screen.

The Salon was again organized and sponsored by the Physicians' Art Salon Committee and Frank W. Horner Limited.

JUDGING ARDUOUS

The Jury of Selection, assembled by Drs. Harold Popham and A. M. Goodwin, comprised three discerning Winnipeg critics,—Mr. Alvan C. Eastman, Mr. Newton Brett, and Mr. J. M. Duncan who spent a painstaking seven hours judging the three sections. The Fine Art Section was subdivided into Modern and Traditional works and awards presented in each category. Engraved plaques and award of merit certificates are supplied by Frank W. Horner Limited.

PRIZE AND AWARD WINNERS

Traditional fine arts—1st, "Lakefield Rocks", H. E. Hopkins, M.D., Toronto, Ont.; 2nd, "Still Life", Howard I. Goldberg, M.D., Halifax, N.S. *Awards*—"Nigel Pass",

Evelyn A. Gee, Tranquille, B.C.; Portrait, W. J. Hart, M.D., East Kildonan, Man.; "Fallis Hill", M. F. Newell, M.D., Edmonton, Alta.; "The Stones which the Builders Rejected", E. R. Rafuse, M.D., St. James, Man.; "Deserted Cove", R. F. Ross, Truro, N.S.; "Road—Lake of Bays", W. D. S. Cross, M.D., London, Ont.; "Still Life", Ronald Elliott, M.D., Collingwood, Ont.

Modern fine arts—1st, "Baigneuse", Paul La Riviere, Montreal, Que.; 2nd, "Random Thoughts", L. J. Notkin, M.D., Montreal, Que. *Awards*—"Still Life", Dr. A. E. Robertson, Tranquille, B.C.; "The Warrior", Paul La Riviere, Montreal, Que.

Monochromes—1st, "Matins", W. K. Blair, M.D., Oshawa, Ont.; 2nd "Seba Solitude", P. Shragge, M.D., Edmonton, Alta.; 3rd, "Contact Print", H. M. Spiro, M.D., Vancouver, B.C. *Awards*—No Title, Dr. S. Janowsky, Victoria, B.C.; Architectural Abstraction, W. P. Goldman, M.D., Vancouver, B.C.; "Smelt Fishing by Moonlight", F. T. Dennis, M.D., Port Arthur, Ont.; "Reflets dans la Neige", Jean Brissou, M.D., Hull, Que.

Colour transparencies—1st, "Breakwater", Dr. H. W. Schwartz, Halifax, N.S.; 2nd, "Night Night!", D. A. Boyes, M.D., Ganges, B.C.; 3rd, "When you Come to the End of a Perfect Day", C. A. Cleland, West Toronto, Ont. *Awards*—"Spring in Butchart's Gardens", D. A. Boyes, M.D., Ganges, B.C.; "Winter's Stillness", G. W. Hankins, M.D., Calgary, Alta.; "Pastoral", C. B. Hatfield, M.D.; Edmonton, Alta.; "Fisherman's Harbour", L. R. Hirtle, M.D., Halifax, N.S.; "Winter's Sunlight", W. B. Leach, M.D., Montreal, P.Q.; "C.N.E. Beckons", Dr. R. E. Ives, Stayner, Ont.; "Getting Up Steam", R. E. Turner, M.D., Hamilton, Ont.; "Mine Eyes Have Seen", W. R. Read, M.D.; Drumheller, Alta.; "Autumn's Gold", Mary A. Murphy, M.D., Hedley, B.C.

POPULARITY AWARDS

Fine Art—"My Wife", Dr. E. V. Currie, Shelbourne, Ont.

Monochrome—"Child's World", Charles Scriver, Montreal, P.Q.

ESTABLISHMENT OF
"TRANSPLANTATION BULLETIN"

Within recent months efforts have been under way to increase the exchange of information in the field of tissue transplantation among investigators in laboratories and those at the bedside. The USPHS sponsored a small conference in October 1952, where workers in plastic surgery, cancer, zoology, and other fields discussed common problems in tissue transplantation. In March, 1953, the Ciba Foundation sponsored a similar conference in London, England which emphasized the "Preservation of Normal Tissues for Transplantation". Participants at both conferences felt that some means should be provided for further continuous exchange of information on an informal basis among investigators in the clinic and the laboratory interested in problems of tissue transplantation.

To meet this need, it is proposed to issue a quarterly "Transplantation Bulletin". This Bulletin will serve several functions. (1) It will maintain, and publish at least once yearly, a Transplantation Registry which will list all practicing physicians and research workers interested in transplantation problems. The Registry will cover the fields of plastic surgery, endocrinology, cancer, genetics, immunology, experimental morphology, etc. (2) The Bulletin will provide a medium for a rapid and informal exchange of information on problems and progress in the clinics and laboratories. The Bulletin will not publish formal papers. However, brief comments on unreported data will be welcomed. (3) It will, through a staff of Corresponding Editors, attempt to keep all members of the "Transplantation Registry" informed of forthcoming meetings of the professional societies, at which there will be presentations dealing with any aspects of transplantation. It will also try, through its Corresponding Editors, to have the subjects covered in a co-ordinated fashion at the meetings. (4) It will maintain a bibliography in the fields listed in item (1) above.

The Transplantation Bulletin extends an invitation to all workers in the fields of medicine and biology interested in tissue transplantation, to submit their name and field of interest to E. J. Eichwald, M.D., University of Utah College of Medicine, Salt Lake City, Utah. A

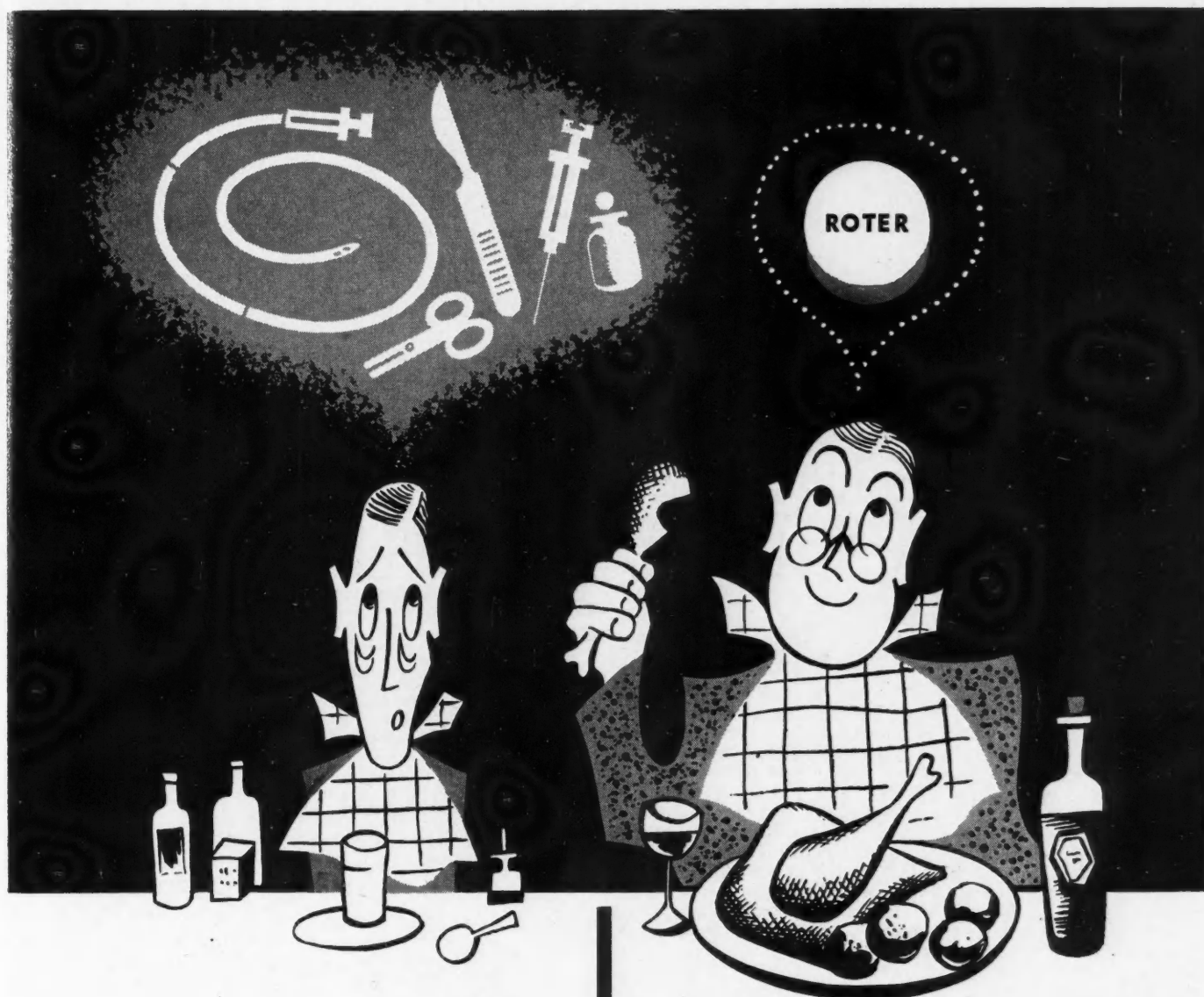
(Continued on page 56 of the advertising section)

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A general medical institution fully equipped for diagnostic and therapeutic service. Close cooperation with home physicians in management of chronic diseases.

For rates and further information, address Box 50
THE BATTLE CREEK SANITARIUM BATTLE CREEK, MICHIGAN
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other therapeutic means
have failed . . .*

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*The new effective
Dutch preparation
for the treatment
of gastric ulcers*

The Bismuth subnitrate used in Roter tablets is in the form of small insoluble and uniform granules covered by a special Dutch procedure with a hydrophilic colloid, thus forming a stable and protective suspension in the stomach. Roter possesses also a mild laxative and analgesic action.

FORMULA:

Each tablet contains:

Magnesium Carbonate	400 mg.
Bismuth Subnitrate	350 mg.
Sodium Bicarbonate	200 mg.
Calamus Root	25 mg.
Cortex Rhamni frangulae	25 mg.

HOW SUPPLIED:

Boxes of 60, 150 and 660 tablets.

REFERENCE:

Professor F. Beckermann, Director and Medical Superintendent of Dept. for Internal Diseases and Dr. G. Otto from The Heidberg General Hospital, Hamburg. (Personal communication).

ANGLO-FRENCH DRUG CO. LTD.

MONTREAL 18

NEWS AND NOTES

(Continued from page 54 of the advertising section)

subscription fee of \$3.00, to cover the expenses of printing the Bulletin and maintenance of the Registry and Bibliography, will be payable after the first issue of the Bulletin has appeared. The first issue is expected to appear in August 1953.

GARRISON NOTEBOOKS

The Armed Forces Medical Library has recently acquired some notebooks of Dr. Fielding H. Garrison. These consist of 18 small blank books, partially filled in, predominantly in pencil. Generally the material is undated but some of the books as indicated on the covers come from the Philippine period. There is a little bit of everything in the books—quotations, musical notations, copied poems, translations of poems, drafts of essays, limericks, and random comments of all kinds. The blank sheets are occasionally defaced with the scrawls of Garrison's children. It will be some time before this material can be thoroughly mined and its contents fully revealed.

[Armed Forces Medical Library News]

SYMPOSIUM ON CARDIOVASCULAR
PHYSIOLOGY AND SURGERY

Under the auspices of the Minnesota Heart Association, the University of Minnesota will present a Symposium on Cardiovascular Physiology and Surgery next September 14 to 16 in the Museum of Natural History Auditorium on the University Campus. A host of internationally known physiologists and vascular surgeons will participate. The symposium will be open, without tuition fee, to all physicians and to qualified investigators in the field of cardiac physiology. Housing accommodations will be available on the campus for out-of-town registrants who wish them. Further information may be obtained from the Director, Department of Continuation Medical Education, University of Minnesota Hospitals, Minneapolis 14, Minnesota.

The 19th Annual Meeting of the American College of Chest Physicians, held at the Hotel New Yorker, New York City, May 28 to 31, 1953, surpassed all previous College records for attendance at both the scientific sessions and social functions. Approximately 1,500 registered, including 1,200 members and guest physicians, and 300 non-physician guests.

Dr. Alvis E. Greer, Houston, Texas, was elected President for 1953-54.

Dr. William E. Ogden, Toronto, was awarded an Honorary Regent certificate. Dr. Harold I. Kinsey, Toronto, is Regent of the College for Canada. W. Elliott Harrison, Vancouver, B.C. was re-elected Governor for British Columbia. B. Guy Begin, Montreal, was re-elected Governor for Quebec. Hugo T. Ewart, Hamilton, was re-elected Governor for Ontario. J. J. Quinlan, Kentville, N.S. was re-elected Governor for the Eastern Provinces. Leslie Mullen, Calgary, was re-elected Governor for the Western Provinces.

The next Annual Meeting will be held in San Francisco, California, June 17-20, 1954.

Nearly three-quarters of the \$335,000,000 paid to beneficiaries of deceased policyholders by the Metropolitan Life Insurance Company last year was for deaths from diseases of the heart and blood vessels, or from cancer. About 55% of the payments—\$184,000,000—was for deaths from diseases of the heart and blood vessels. Twenty-five years ago the proportion paid out for these diseases was only 31%. Cancer death claim payments totalled nearly \$62,000,000, or over 18% of the total, as compared with 10% 25 years ago.

The increase in the proportion of payments for the chronic degenerative diseases, the company's statisticians explain, reflects not only the reduction in mortality from the acute conditions—particularly pneumonia, influenza, and tuberculosis—but also the growing percentage of policyholders at the older ages.

The external causes of death accounted for approximately one-ninth of the claim payments during the year. Slight increases in payments on account of accidental deaths and homicide were counterbalanced by declines for suicide and for deaths from enemy action.

In 1952 the payments for deaths from enemy action in Korea amounted to \$858,000, somewhat more than half the amount of the corresponding 1951 payments.

The Endocrine Society and the University of Minnesota announce a Postgraduate Assembly in Endocrinology and Metabolism for Physicians, the Sixth Annual Assembly sponsored by The Endocrine Society, which will be presented on the University of Minnesota campus from September 28 to October 3, 1953.

All aspects of clinical endocrinology and metabolism will be taken up, and recent important advances in the field will be stressed. Informative demonstrations and illustrative clinical cases will be presented, and ten panel discussions will provide registrants with opportunities to bring up special problems and questions. Each registrant will receive a booklet containing abstracts of all lectures.

Faculty for the Assembly includes outstanding authorities in the field of endocrinology from various parts of the country as well as members of the faculty of the University of Minnesota Medical School and the Mayo Foundation. The program will be presented under the direction of Dr. Edward C. Reifenshtein, Jr., General Chairman for The Endocrine Society, and Dr. C. J. Watson, Professor and Head, Department of Medicine. Chairman of Local Arrangements on behalf of The Endocrine Society is Dr. Edmund B. Flink.

1953 NUTRITION
PHOTOGRAPH CONTEST

The nutrition Division of the Department of National Health and Welfare in sponsoring its second Nutrition Photograph Contest. It is now open and will run until November 30, 1953. As in the past, the aim is to stimulate interest in work being done in the field of nutrition in Canada.

Since nutrition is closely related to the field of medicine, there may be doctors who have nutrition programs they would like to enter in the contest. No entry fee is required. Any number of black and white glossy prints may be submitted by an entrant. These should be 8" x 10", mounted or unmounted. Each entry must be accompanied by a completed entry blank, the negative and a release signed by each person identifiable in the photograph. Copies of the rules may be obtained from the Contest Editor, Nutrition Division, Department of National Health and Welfare, Ottawa, Canada.

Top dental and medical researchers will be in attendance at the 10th annual meeting of the American Institute of Dental Medicine, at the Desert Inn and El Mirador, Palm Springs, Calif., October 25 through October 29, 1953. Advance registration, according to an announcement by Dr. Hermann Becks, Director and Founder of the Institute, indicates a capacity turn-out for the five-day study session.

Included in the lecture-packed program to be discussed and analyzed at the meeting are the following subjects: W. L. Bostick, M.D., (San Francisco), Dynamics of inflammation; Cellular reaction to injury and The malignant lymphoma; A. C. Curtis, M.D., (Ann Arbor),

(Continued on page 58 of the advertising section)

the syringe you've been waiting for!

"every plunger fits every barrel"

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MULTIFIT

Syringe

the convenience and economy of interchangeable parts
the performance of an individually fitted syringe
the durability of a clear glass molded barrel

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B-D AND MULTIFIT, T. M. REG. U. S. PAT. OFF.

NEWS AND NOTES

(Continued from page 56 of the advertising section)

The physiology of pigmentation in man; Cutaneous virus diseases; The dentist looks at the field of dermatology; H. B. G. Robinson, D.D.S., (Columbus), The oral pathologist considers focal infection; Clinical aspects of intra-oral aging and recalcitrant diseases of the oral mucosa; D. B. Scott, D.D.S., (Bethesda), The structure of normal dental tissues as observed under the electron microscope; Electron microscopy of carious enamel and dentin; The influence of structural variation on current histological concepts; H. Selye, M.D., Ph.D., (Montreal), The alarm reaction; The general adaptation syndrome, and The rôle of stress and of the adaptive hormones in dental medicine; H. Sicher, M.D., (Chicago), Anatomic basis for the spread of dental infections; Problems of pain in dentistry and common misconceptions in genetics. Applications and full information on the Seminar program may be secured by writing Miss Marion G. Lewis, Executive Secretary, 2240 Channing Way, Berkeley 4, California.

UROLOGY AWARD

The American Urological Association offers an annual award of \$1,000 (first prize of \$500, second prize \$300 and third prize \$200) for essays on the result of some clinical or laboratory research in Urology. Competition shall be limited to urologists who have been in such specific practice for not more than ten years, and to men in training to become urologists.

The first prize essay will appear on the program of the forthcoming meeting of the American Urological Association, to be held at the Waldorf-Astoria, New York City, May 31 to June 3, 1954. For full particulars write the Executive Secretary, William P. Didusch, 1120 North Charles St., Baltimore, Maryland. Essays must be in his hands before February 1, 1954.

The Department of Medical Geography of the American Geographical Society is compiling an *Atlas of Diseases* which will eventually comprise twenty-five sheets; on each sheet a number of medical maps are being plotted. The objective of this atlas is to show the world distribution of selected diseases in a compact, easy to read way. This census of known facts is the first step toward a study of the geographical correlations which foster the occurrence of a specific disease, in a certain area, at a given time. Nine plates have been published so far, covering the world distribution of poliomyelitis, cholera, malaria vectors, helminthiasis, dengue and yellow fever, plague, leprosy, and a study in human starvation which comprises two plates, namely sources of selected foods and diets and deficiency diseases.

We have seen a sample map of this series, that showing the distribution of dengue and yellow fever, and can warmly commend this undertaking. In no other way can we get a world wide view so rapidly and convincingly. The maps will appear at intervals of three

months. Price \$1.25 per map. The American Geographical Society, Broadway at 156th Street, New York 32, N.Y.

The following fellowships, scholarships, medals and prizes have been granted in the Faculty of Medicine, University of Toronto.

Graduate.—The William Goldie Prize, C. J. Bardawill, Phm.B., M.A., M.D.; The Elizabeth Arbutnot Dyson Fellowship, M. J. O'Brien, B.A., M.D., F.R.C.P.[C.]; The Graham Campbell Fellowship, R. M. Clark, M.D.; The Graham Campbell Prize, E. J. Stark, M.D.; The Percy Hermant Fellowships in Ophthalmology, R. L. Hall, M.D., H. R. Hausler, M.D., M.A., M. Shea, M.B., B.Ch.; The Arch Hutchison Fellowship, A. J. Hudson, M.D., B.Sc.(Med.); The Lister Prize in Surgery, W. J. McCracken, M.D., B.Sc.(Med.), F.R.C.S.[C.]; The Alexander McPhedran Research Fellowship in Clinical Medicine, J. M. Heywood, M.D.; The Starr Medal, E. J. Stark, M.D.; The E. P. Taylor Fellowship in Otolaryngology, T. Molony, L.R.C.P.&S.; The Helen L. Vanderveer Fellowship, H. P. M. Higgins, M.D.; The James H. Richardson Research Fellowship, A. J. A. Noronha, M.D., B.S.

Fourth Medical Year.—The Cody Gold Medal, E. D. Wigle; The Cody Silver Medal, J. F. Mustard; The Cody Silver Medal, J. W. Dawson; The Chappell Prize in Clinical Medicine, J. F. Mustard; The Chappell Prize in Clinical Surgery, E. D. Wigle; The Hendry Memorial Scholarship, R. D. Longmore; The Ontario Medical Association Prize in Preventive Medicine, Miss D. F. Burton; The Dr. Roy Simpson Scholarship in Paediatrics, J. F. Mustard; The Class of 1924 War Service Scholarship, E. D. Wigle; The Medical Alumni Association Scholarship, H. Fields; The Butterworth Prize, F. B. Fallis (British Encyclopædia of Medical Practice, 14 volumes).

Third Medical Year.—The Dr. Benjamin Cohen Prize in Obstetrics, R. J. Watson; The Ronald S. Saddington Medal in Pathology, E. Pike; The Sandoz Prize in Pharmacology, H. P. Brent.

Second Medical Year.—The John Copp Bursary, J. B. Bassingthwaite; The Posluns Brothers Scholarship, Mrs. M. L. Cohen; The Sandoz Prize in Pharmacology, G. S. Cohen.

First Medical Year.—The John Zoberman Scholarship, H. J. Hoffman, B. Langer, Aeq.

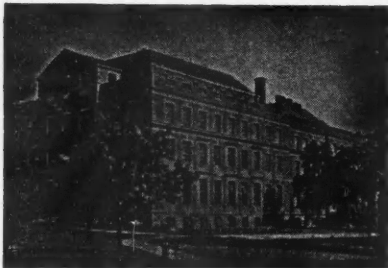
Second Premedical Year.—The Famous Players Canadian Corporation Scholarship, Miss B. Glozek.

Tumour registries have been set up in increasing numbers in the United States since the end of World War II. At present, there are nearly 600 such registries in the Nation. A typical example of their operation may be found at the Registry of the university hospitals in Iowa City which has records on 6,319 living patients whom the doctors there have treated for cancer. The necessity of "following-up" patients to guard against possible extension of the disease is stressed by Edward Weiben, statistician and head of the Tumour Registry. The 3,583 patients who have not reached the "five-year-cure" period receive letters of inquiry about their physical condition every six months. Those who were treated for cancer more than five years ago receive a letter once a year.

The replies are placed in the patients' hospital histories and are available to physicians at all times. They provide a method for comparing the results of varying treatments at different stages of a disease. In addition, through the registry, the patient has a means of keeping his local physician informed as to the previous treatment when he moves from one community to another and changes physicians. The patient need only request in writing that a summary be sent to a specified physician.

Although every patient examined for a tumour is listed on the registry, the condition followed need not necessarily be malignant. In the file of case histories of more than 23,000 patients who were examined at the university hospitals, nearly 18,000 were not cancer cases. In this way it is possible to protect persons who may have a pre-cancerous conditions from having the disease advance too far for treatment at a later date.

(Continued on page 60 of the advertising section)



University of Toronto
SCHOOL of HYGIENE

•

**Diploma in
Public Health**

The next course
will commence on
September 21, 1953.

For information regarding this course and the
DIPLOMA IN HOSPITAL ADMINISTRATION
write, The Director, School of Hygiene,
University of Toronto, Toronto, Ontario

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Triple ANTIHISTAMINE

thepryl Compound

for the histamine basis of allergy

CAPSULE THEPRYL COMPOUND 25 mg.

Each capsule contains:

Thepryl (Chlorothenylpyramine Citrate)	25 mg.
Desoxyephedrine Hydrochloride	0.025 mg.
Atropine Sulphate (1/2000 gr.)	0.032 mg.

CAPSULE THEPRYL COMPOUND 50 mg.

Each capsule contains:

Thepryl (Chlorothenylpyramine Citrate)	50 mg.
Desoxyephedrine Hydrochloride	1.25 mg.
Atropine Sulphate (1/1000 gr.)	0.064 mg.

OINTMENT THEPRYL COMPOUND

Thepryl (Chlorothenylpyramine Citrate)	2%
Calamine	10%
Zinc Oxide	5%
Camphor-Phenol	1%
Benzocaine	1%

Also available

THEPRYL EXPECTORANT SYRUP and CAPSULE

Thepryl Reg'd Trade Mark for
Chlorothenylpyramine Citrate

will

CHARLES R. WILL & CO. LIMITED • LONDON • CANADA
ETHICAL PHARMACEUTICALS

NEWS AND NOTES

(Continued from page 58 of the advertising section)

On July 14, 1953, the College of Physicians of Philadelphia awarded the Alvarenga Prize for 1953 to Francis D. Moore, M.D., Surgeon-in-Chief, Peter Bent Brigham Hospital and Mosely Professor of Surgery, Harvard Medical School, for his outstanding contributions to our knowledge of the changes in body metabolism following surgery.

The Alvarenga Prize was established by the will of DaCosta Alvarenga of Lisbon, Portugal, an Associate Fellow of the College of Physicians of Philadelphia, to be awarded annually by the College of Physicians on the anniversary of the death of the Testator, July 14, 1883.

The Council on Postgraduate Medical Education of the American College of Chest Physicians, in co-operation with the respective state chapters of the College as well as the staffs and faculties of the local hospitals and medical schools, will sponsor the Eighth Annual Postgraduate Course on Diseases of the Chest at the Hotel Knickerbocker, Chicago, Illinois, September 28-October 2, 1953, and the Sixth Annual Postgraduate Course on Diseases of the Chest to be held at the Hotel New Yorker, New York City, November 2-6, 1953.

These annual postgraduate courses endeavour to bring physicians up to date on recent advancements in the management and treatment of heart and lung disease. Tuition for each course is \$75. Further information may be secured by writing to the Executive Director, American College of Chest Physicians, 112 East Chestnut Street, Chicago 11, Illinois.

REFRESHER COURSE IN EYE SURGERY

The Faculty of Medicine of the University of Toronto offers a Refresher Course in Eye Surgery from April 20 to 26, 1954. The instruction will consist of lectures, operative clinics on patients and cadaver surgery in small groups. The guest surgeons will be John Foster, M.B., F.R.C.S., Leeds, England and Wendell L. Hughes, M.D., F.A.C.S., Hempstead, New York. The staff of the Department of Ophthalmology in the University will contribute extensively to the course.

The course will be given for a minimum of 10 students and a maximum of 30 students. Applications should be made to the Dean of the Faculty of Medicine, not later than January 31, 1954.

GRADUATE TRAINING IN
OPHTHALMOLOGY

The University of Toronto, Faculty of Medicine offers a post-graduate course in Ophthalmology extending over three years. The graduate instruction in Ophthalmology in the teaching hospitals in Toronto has been co-ordinated under the direction of the University. The first year on a Fellowship, the value of which is approximately \$1,400, the student spends in one of the basic sciences of Ophthalmology, and the final two years are spent on the intern service of one or more of the University teaching hospitals. Approximately four hours of didactic teaching are arranged for the students by members of the staff each week from October to May. Teaching ward rounds are made at the Toronto General Hospital and are attended by the interns from the other University hospitals.

An application for appointment may be made to the Professor of Ophthalmology, Faculty of Medicine, University of Toronto. Appointments are made in December to commence on the following July 1.

Complete remission in Aural infections

- Antibacterial
- Hygroscopic
- Decongestant
- Non-Toxic
- Non-Irritating

Glycerite
of Hydrogen Peroxide *ipc* with Carbamide

Instill one-half dropperful into affected ear four times daily

Supplied in one-ounce bottles with dropper

Samples and Literature on request

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Dissolved and stabilized in substantially anhydrous glycerol q.s.ad. 30cc.

Business Report

THE EIGHTY-SIXTH ANNUAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION, HELD IN WINNIPEG

June 15, 16, 17, 18, 19, 1953

THE EIGHTY-SIXTH ANNUAL MEETING of the Canadian Medical Association was held in the Royal Alexandra Hotel, Winnipeg, on June 15, 16, 17, 18 and 19, 1953. The registration totalled 1,432, including members and their wives.

THE ANNUAL GENERAL MEETING

The Annual General Meeting was held on Wednesday evening, June 17 in the Ball Room of the Royal Alexandra Hotel with Dr. Norman H. Gosse, Chairman of the General Council, presiding. In the presence of a large assembly of members and guests Senior Membership was conferred on the following:

Dr. Hermann Melchoir Robertson, Victoria, B.C.; Dr. Jermyrn Oscar Baker, Edmonton, Alta.; Dr. Robert George Ferguson, Regina, Sask.; Dr. Hugh McGavin, Plum Coulee, Man.; Dr. Alexander Gibson, Winnipeg, Man.; Dr. Alexander Felstead McKenzie, Monkton, Ont.; Dr. Frank Stewart Patch, Strathmore, Que.; Dr. Everett Onslow Thomas, St. Stephen, N.B.; Dr. Arthur Ernest Doull, Halifax, N.S.; Dr. Edwin T. Tanton, Summerside, P.E.I.; Dr. Cluny Macpherson, St. John's, Nfld.

In a short business session, it was

Moved by Dr. R. W. Richardson,
seconded by Dr. E. K. Lyon,

That the existing Constitution and By-Laws of the Canadian Medical Association be repealed and that there be substituted and adopted the amended By-laws of the Canadian Medical Association as prepared by the Committee on Constitution and By-laws, published in the May and June, 1953 issues of the *Canadian Medical Association Journal* and revised by the General Council. *Carried.*

Fraternal greetings from the British Medical Association were presented by the Official Delegate, Dr. Robert Forbes, of London, from the Federal Council of the British Medical Association in Australia by the Official Delegate Dr. John Hunter of Sydney and from the American Medical Association by the Official Delegate Dr. George Lull, of Chicago.

The following guest speakers were present and were introduced to the meeting: Dr. John W. Gofman, Berkeley, California; Dr. Edward P. Burch, St. Paul, Minn.; Dr. Douglas Quick, New York and Dr. R. H. Overholt, Boston.

The Frederic Newton Gisborne Starr Award was conferred in absentia on Dr. Charles F. Martin, of Montreal. The citation of Dr. Martin was presented by Dr. Walter deM. Sriver.

Fittingly introduced by Dr. Norman H. Gosse, Dr. Charles W. Burns of Winnipeg was installed in the office of President of the Canadian Medical Association. In his address, Dr. Burns paid tribute to the life and work of the late Dr. Harold Orr, his predecessor. He conveyed the Past President's Badge to Dr. H. V. Morgan for transmission to Mrs. Orr. Reviewing the work of the Association, Dr. Burns touched on the social and economic problems which confront the profes-

sion and pledged the best endeavours of the Canadian Medical Association to contribute to their solution.

Following the Annual General Meeting, the President and Mrs. Burns, supported by the President-Elect, Dr. G. F. Strong and Mrs. Strong, greeted the members and guests at a reception.

THE GENERAL COUNCIL

The General Council met in the Royal Alexandra Hotel, Winnipeg, on Monday, June 15 in day and evening sessions and in a day session on Tuesday, June 16. The Chairman, Dr. Norman H. Gosse, presided. The following 113 delegates answered the roll call:

Drs. G. Harvey Agnew, Toronto, Ont.; J. F. C. Anderson, Saskatoon, Sask.; P. F. Ashley, St. John's, Nfld.; Elinor F. E. Black, Winnipeg, Man.; Eric W. Boak, Victoria, B.C.; Wm. Bramley-Moore, Edmonton, Alta.; H. E. Britton, Moncton, N.B.; R. C. Bull, Fort William, Ont.; J. Burke, Grand Bank, Nfld.; C. W. Burns, Winnipeg, Man.; R. C. Burr, Kingston, Ont.; G. D. W. Cameron, Ottawa, Ont.; W. C. Campbell, Medicine Hat, Alta.; Gavin Chisolm, Victoria, B.C.; H. B. Church, Aylmer East, Que.; F. H. Coppock, Eckville, Alta.; J. C. C. Dawson, Peterborough, Ont.; R. C. Dickson, Toronto, Ont.; E. F. Donald, Edmonton, Alta.; M. S. Douglas, Windsor, Ont.; George Dumont, Campbellton, N.B.; J. M. Elliott, Quebec, Que.; H. T. Ewart, Hamilton, Ont.; W. R. Feasby, Toronto, Ont.; G. G. Ferguson, Vancouver, B.C.; J. A. Ganshorn, Vancouver, B.C.; C. L. Gass, Sackville, N.B.; A. M. Goodwin, Winnipeg, Man.; J. K. Gordon, Montreal, Que.; N. H. Gosse, Halifax, N.S.; H. G. Grant, Halifax, N.S.; G. W. Halpenny, Montreal, Que.; H. G. Hall, Toronto, Ont.; M. C. Harvey, Kitchener, Ont.; G. M. T. Hazen, Saskatoon, Sask.; Irwin M. Hilliard, Toronto, Ont.; J. E. Hudson, Hamiota, Man.; Edward Johnson, Selkirk, Man.; K. B. Johnston, Montreal, Que.; W. V. Johnston, Lucknow, Ont.; A. D. Kelly, Toronto, Ont.; M. O. Klotz, Ottawa, Ont.; R. G. Large, Prince Rupert, B.C.; P. O. Lehmann, Vancouver, B.C.; J. D. Leishman, Regina, Sask.; J. R. Lemieux, Quebec, Que.; D. Selater Lewis, Montreal, Que.; E. K. Lyon, Leamington, Ont.; R. Lyons, Winnipeg, Man.; J. H. Maloney, Charlottetown, P.E.I.; Roy H. Malyon, Toronto, Ont.; Samuel Marcus, Bridgewater, N.S.; W. E. Martin, Toronto, Ont.; E. S. Mills, Montreal, Que.; R. M. Mitchell, Sudbury, Ont.; H. A. L. Mooney, Courtenay, B.C.; H. V. Morgan, Calgary, Alta.; E. C. McCoy, Vancouver, B.C.; E. A. McCusker, Ottawa, Ont.; H. E. MacDermot, Montreal, Que.; M. T. Macfarland, Winnipeg, Man.; J. M. McGrath, St. John's, Nfld.; D. G. McKay, Montreal, Que.; H. F. McKay, New Glasgow, N.S.; G. A. McLaughlin, Vancouver, B.C.; W. J. P. MacMillan, Charlottetown, P.E.I.; J. A. McNamara, St. John's, Nfld.; J. R. Macneil, Glace Bay, N.S.; Harris McPhedran, Toronto, Ont.; Cluny Macpherson, St. John's, Nfld.; R. A. Macpherson, Winnipeg, Man.; D. L. McRae, Montreal, Que.; S. A. Orchard, Saskatoon, Sask.; R. M. Parsons, Red Deer, Alta.; G. W. Peacock, Saskatoon, Sask.; Carleton B. Peirce, Montreal, Que.; Clarence

Pottle, St. John's, Nfld.; Arthur Powers, Hull, Que.; H. C. Reardon, Halifax, N.S.; J. H. M. Rice, Campbellton, N.B.; R. W. Richardson, Winnipeg, Man.; T. C. Routley, Toronto, Ont.; G. I. Sawyer, Toronto, Ont.; S. M. Schmaltz, Lethbridge, Alta.; D. L. Scott, Winnipeg, Man.; J. W. Scott, Edmonton, Alta.; W. deM. Sriver, Montreal, Que.; L. J. Shepley, Chatham, Ont.; L. A. Sigurdson, Winnipeg, Man.; George F. Skinner, Saint John, N.B.; M. R. Stalker, Ormstown, Que.; G. F. Strong, Vancouver, B.C.; L. J. Sutherland, Owen Sound, Ont.; D. A. Thompson, Bathurst, N.B.; W. F. Tisdale, Winnipeg, Man.; M. G. Tompkins, Sr., Dominion, N.S.; W. B. Tufts, Outlook, Sask.; A. F. VanWart, Fredericton, N.B.; J. A. Walsh, Manuels, Nfld.; R. Vance Ward, Westmount, Que.; C. M. Warren, Toronto, Ont.; F. E. Werthenbach, Unity, Sask.; R. W. Whetter, Steinbach, Man.; C. C. White, Chatham, Ont.; F. L. Whitehead, East Riverside, Kings Co., N.B.; Lorne Whitaker, St. Catharines, Ont.; C. W. Wiebe, Winkler, Man.; F. H. Wigmore, Moose Jaw, Sask.; C. J. M. Willoughby, Kamloops, B.C.; Wallace Wilson, Vancouver, B.C.; J. B. T. Wood, High Prairie, Alta.; E. F. Woolverton, Woodstock, N.B.; M. A. R. Young, Lamont, Alta.

The President-Elect, Dr. C. W. Burns, welcomed the members of General Council to Winnipeg and assured them that the members of the Manitoba Division desired that their guests would enjoy and profit by the sessions of the Annual Meeting and the social functions which had been arranged.

The fraternal delegates from sister national medical associations were introduced by the Chairman, Dr. Robert Forbes of the British Medical Association, Dr. John Hunter of the Federal Council of the B.M.A. in Australia, and Dr. George Lull of the American Medical Association. Each addressed the General Council briefly.

REPORT OF THE COMMITTEE ON ARCHIVES

Mr. Chairman and Members of General Council:

1. Your Committee reports with deep regret the loss of the following members by death during the past year:

Drs. R. T. Atkinson, Saskatoon, Sask.; H. E. Baird, Regina, Sask.; F. H. C. Baugh, Guelph, Ont.; Alfred W. Beattie, Belmont, Ont.; Irving R. Bell, Edmonton, Alta. (Life Member of Alberta Division); Arnold Bernstein, Montreal, Que.; W. Bethune, Hamilton, Ont.; A. Birman, Montreal, Que.; J. H. Blair, Vancouver, B.C.; Donald Bourassa, Montreal, Que.; L. J. Breslin, Toronto, Ont.; R. J. W. Brooke, Toronto, Ont.; E. E. Bugg, Eden, Man.; J. F. Burgess, Montreal, Que.; N. S. Burrows, Guelph, Ont.; W. W. Buttle, Pakenham, Ont.; B. Cahanna, Montreal, Que.; W. G. Campbell, Winnipeg, Man. (Senior Member C.M.A.); P. J. Carroll, Claresholm, Alta.; David W. Clark, Peterborough, Ont.; Harold Clarke, Brighton, Ont.; O. Comeau, Rogersville, N.B.; James H. Cotton, Toronto, Ont.; George W. Cragg, Cornwall, Ont.; G. L. Crane, Regina, Sask.; J. C. Creasy, Winnipeg, Man.; D. W. Crombie, London, Ont.; T. H. Cuddy, Winnipeg, Man.; O. J. Day, Winnipeg, Man.; W. E. Dean, Toronto, Ont.; Charles DeBlois, Three Rivers, Que.; F. T. Densmore, Glace Bay, N.S.; Ivan Dixon, Calgary, Alta. (Life Member of Alberta Division); C. S. Dunning, Lansing, Ont.; W. R. Fader, Toronto, Ont.; Hugh A. Farris, Saint John, N.B.; Frank P. Fleming, Saint John, N.B.; T. M. Galbraith, Napanee, Ont. (Life Member of Ontario Division); C. R. Gilmour, Winnipeg, Man.; A. H. Gordon, Montreal, Que.; G. D. Gordon, Kemptville, Ont.; A. C. Greenaway, Rocky Mountain House, Alta.; W. N. Hardman, London, Ont.;

William, Hutchinson, Ottawa, Ont.; Alex N. Inglis, Montreal, Que.; J. G. Jose, St. Mary's, Ont.; H. Kamitakahara, Greenwood, B.C.; J. Katz, Winnipeg, Man.; W. F. Kenney, Rexton, N.B.; J. F. Gaston Lamontagne, Timmins, Ont.; J. L. Little, Guelph, Ont.; H. B. Longmore, Campbellford, Ont. (Life Member of Ontario Division); J. C. A. Marchand, Ottawa, Ont.; C. A. Marlatt, Ville St-Laurent, Que.; J. B. Miller, Toronto, Ont.; A. Moir, Whitby, Ont. (Life Member of Ontario Division); E. A. Moore, Toronto, Ont.; F. H. Moore, Vancouver, B.C.; J. M. Morrow, Winnipeg, Man.; J. F. Mullins, Windsor, Ont.; T. A. McCallum, Ridgetown, Ont.; Victor McCormack, Toronto, Ont. J. H. A. MacDonald, Connaught Station, Ont.; D. U. McGregor, Hamilton, Ont.; I. R. McKendry, Melfort, Sask.; C. A. MacKenzie, Winnipeg, Man.; W. E. McKinley, Unionville, Ont. (Life Member of Ontario Division); J. A. MacMillan, Montreal, Que.; W. B. McNaughton, Arnprior, Ont.; E. A. McQuade, Trenton, Ont. (Past President, Ontario Division); Isabelle MacTavish, Winnipeg, Man. (Senior Member of Manitoba Division); G. I. Nugent, Fredericton, N.B.; B. H. Olson, Winnipeg, Man.; G. M. Olin, Watson, Sask.; W. H. Ormond, Brooks, Alta.; J. Orobko, Edmonton, Alta.; Harold Orr, Edmonton, Alta. (President, C.M.A.; Life Member of Alberta Division). It is fitting that special reference be made to the loss of our President, Harold Orr. He was one of the many whose devotion to high ideals in Medicine is the very foundation of our Association. We mourn the loss of his cheerful, clear-headed inspiring guidance, and pay high tribute to his unselfish and whole hearted service as our President to which, in some measure, we may attribute his untimely death. J. E. Palmer, Calgary, Alta. (Life Member of Alberta Division); F. S. Patch, Strathmore, Que. (Past President, C.M.A.; Senior Member, C.M.A.); M. G. Peever, London, Ont.; J. E. Plunkett, Ottawa, Ont.; Malcolm G. Ranney, Kimmount, Ont.; R. D. Roach, Moncton, N.B.; Lorne F. Robertson, Stratford, Ont.; J. C. Rothwell, Montreal, Que.; E. J. Ryan, Essondale, B.C.; F. M. Scott, Hamilton, Ont.; F. Sedziak, Elie, Man.; K. Shimotakahara, Montreal, Que.; Michael Shulhan, St. Paul, Alta.; J. H. L. Simpson, Springhill, N.S.; C. E. Spence, Fort William, Ont.; R. J. Spence, Toronto, Ont.; J. S. Stewart, Newdale, Man.; R. R. Swan, Winnipeg, Man.; H. M. Torrington, Sudbury, Ont. (Past President, Ontario Division; Life Member of Ontario Division; Senior Member, C.M.A.); C. M. Vanstone, Winnipeg, Man.; H. F. W. Vernon, Winnipeg, Man.; D. Walter, Pangman, Sask.; W. W. White, Saint John, N.B. (Senior Member, C.M.A.); Mary F. Whittaker, Toronto, Ont.; D. R. Williams, Winnipeg, Man.; G. Wilson, Winnipeg, Man.; A. R. Winram, Winnipeg, Man.; J. S. Wray, Lethbridge, Alta. (Life Member of Alberta Division); C. S. Wright, Toronto, Ont.; W. O. York, Edmonton, Alta. (Life Member of Alberta Division).

All of which is respectfully submitted.

H. E. MACDERMOT,
Chairman.
Adopted.

A minute of silence was observed out of respect to the memory of these members of the Association who had died since the last Annual Meeting.

On motion of Dr. E. K. Lyon, seconded by Dr. C. C. White, the General Council resolved itself into a Committee of the Whole for the discussion of the report of the Executive Committee. Dr. Wallace Wilson was elected Chairman of the Committee of the Whole and assumed the chair.

REPORT OF THE EXECUTIVE COMMITTEE

Mr. Chairman and Members of General Council:

2. The Executive Committee desires to present the following report:

THE PATRON

3. Her Majesty Queen Elizabeth II has graciously consented to extend her Patronage to the Canadian Medical Association. All the members of the Association will desire to join with Council in expressing delight that our beloved Queen has so honoured us. In this, the month of her Coronation, our Association would express its loyalty and devotion.

Moved by Dr. Gosse, seconded by Dr. Church,
that this section be adopted and that a message of loyalty be addressed to Her Majesty Queen Elizabeth II, conveying the felicitations of the Canadian Medical Association on her Coronation.
Adopted.

ANNUAL MEETING, 1952

4. The Eighty-Fifth Annual Meeting was held in the Banff Springs Hotel, at Banff, Alberta, during the week of June 9th, 1952, with a total attendance of 1,919 including the ladies. The General Council met on Monday and Tuesday, June 9th and 10th, with 110 delegates representing the 10 divisions. The discussions were keen, of high order, and reflected the profound interest of the Divisions in affairs of national moment. The program was well arranged to appeal to the greatest possible number both with respect to its scientific papers and round tables, and its General Sessions. A very successful innovation was a public forum under Dr. Kelly with members of the press and members of the profession participating, on the subject of Health Insurance. The highlight of this meeting was the Annual General Meeting with the installation of Dr. Harold Orr as President. Dr. and Mrs. Orr and their most industrious Committee on Arrangements produced an altogether magnificent meeting in perhaps the most majestic setting in Canada.
Adopted.

DEATH OF OUR PRESIDENT

5. It falls to the lot of your Executive to report to you for the first time in the history of this Association the passing of a President during his term of office. Dr. Orr was representing this Association at the World Medical Association when he had a minor heart attack, in London and New York major ones, and in Toronto on December 26th that which brought the final call. Dr. Orr had served his Association well for many years. In the Presidential office he served assiduously and with a deep sense of responsibility. We who mourn the loss to this Association would remember at this time those whose is the greater loss and extend to Mrs. Orr and her daughter expressions of our sympathy and high regard.

Moved by Dr. Gosse, seconded by Dr. Scriver,
that an appropriate message be sent from General Council to Mrs. Orr.
Adopted.

ANNUAL MEETING, 1953

6. Dr. and Mrs. Charles W. Burns began the preparations for the Winnipeg meeting while still at Banff last June and have been most assiduous in their duties ever since.

7. The Local Program Committee, chaired by Dr. Tom Lebbetter, Winnipeg, has rendered excellent assistance and co-operation to the Central Program Committee, under the chairmanship of Dr. Irwin Hilliard, Toronto, with the result that an outstanding program has been arranged for this year.
Adopted.

THE OSLER ORATION

8. On the nomination of the Committee on Awards, Lectures and Scholarships, Dr. George S. Young of Toronto, a Past President of the Royal College of Physicians and Surgeons of Canada, Past Chairman of General Council of this Association, and a man who has in other ways shown a wide interest in affairs of National Health, has been selected to give the Osler Oration this year. For many years Dr. Young has been one of the most popular

physicians of the Toronto area and one of the most valuable members in The Association. We heartily welcome Dr. Young as the Osler lecturer for this year.
Adopted.

FRATERNAL DELEGATES

9. We are happy to report and to welcome to this meeting as fraternal delegates the following:

1. Dr. Robert Forbes, Secretary of the Medical Defence Union and Delegate from the B.M.A.
2. Dr. John Hunter, Secretary of the Federal Council of the B.M.A. in Australia.
3. Dr. George Lull, Secretary of the American Medical Association.

Adopted.

FUTURE ANNUAL MEETINGS

1954—VANCOUVER

10. Preliminary arrangements have been made with the Vancouver Hotel for its convention facilities for our Annual Meeting to be held during the week of June 14th.
Adopted.

1955—TORONTO

11. As previously announced, the British Medical Association has accepted an invitation to meet conjointly with the Canadian Medical Association in the Royal York Hotel, Toronto, during the week of June 20th, 1955.

12. During the month of March, the General Secretary and the Deputy General Secretary spent several days in London in conference with the Committee of the British Medical Association and plans for the conjoint meeting were well advanced.

13. During the current year, the British Medical Association invited the Canadian Medical Association to propose the name of one of its members for the office of President of the British Medical Association in 1955. After consultation with the Board of Directors of the Ontario Division, which body is the immediate Host Society for the Meeting, a nomination was forwarded to the British Medical Association, which will be dealt with at the Annual Meeting of the British Medical Association at Cardiff in July of this year.
Adopted.

The General Council was informed that a nomination from Canada for the office of President-Elect of the B.M.A. for installation as President in 1955 has been forwarded by the Executive Committee, on the recommendation of the Ontario Division, the host for that year. The honour has fallen upon Dr. T. C. Routley. General Council indicated by its applause, concurrence in the action of the Executive Committee.

Dr. Routley thanked the members of General Council for this honour, and stated that the Representative Body of the British Medical Association would consider this nomination at the Annual Meeting at Cardiff in July.

SUPPLEMENTARY REPORT—FUTURE ANNUAL MEETINGS

Dr. Gosse stated that the dates and places for future Annual Meetings of the Canadian Medical Association have been agreed upon by the Divisions and by the British Medical Association as follows:

1954 — Vancouver	— <i>Approved.</i>
1955 — Toronto	— <i>Approved.</i>
(Joint Meeting with B.M.A.)	
1956 — Quebec	— <i>Approved.</i>
1957 — Saskatchewan	— <i>Approved.</i>
1958 — Atlantic Provinces	— <i>Approved.</i>
1959 — United Kingdom	— <i>Approved.</i>
(Joint Meeting with B.M.A.)	
1960 — Banff	— <i>Approved.</i>
1961 — Montreal	— <i>Approved.</i>
1962 — Winnipeg	— <i>Approved.</i>
1963 — Toronto	— <i>Approved.</i>
1964 — Vancouver	— <i>Approved.</i>
1965 — Atlantic Provinces	— <i>Approved.</i>
1966 — Edmonton	— <i>Approved.</i>
1967 — Quebec	— <i>Approved in principle.</i>

This supplementary report was adopted.

ANNUAL MEETINGS OF DIVISIONS—1953

14. The following schedule of Divisional Annual Meetings has been arranged for the ensuing year:

- May 8 and 9—Quebec Division, Seignior Club, Montebello.
May 11-15—Ontario Division, Royal York Hotel, Toronto.
June 15-19—Manitoba Division, conjoint meeting with C.M.A. Royal Alexandra Hotel, Winnipeg. (business meeting in October)
August 25-28—Saskatchewan Division, Waskesiu.
August 31-September 1—Prince Edward Island Division, The Charlottetown, Charlottetown.
September 3-5—Newfoundland Division, Newfoundland Hotel, St. John's.
September 6-9—New Brunswick Division, Algonquin Hotel, St. Andrews.
September 21-25—British Columbia Division, Hotel Vancouver, Vancouver.
September 28-October 2—Alberta Division, Macdonald Hotel, Edmonton.
October 6-9—Nova Scotia Division, Centennial Meeting, Nova Scotian Hotel, Halifax.

It is expected that the meetings will be attended by the incoming President, Dr. Charles W. Burns and also by Mrs. Burns. Travelling teams of speakers are being provided by The Association.

Speaking to Section 14, Dr. H. G. Grant stated that this year the Medical Society of Nova Scotia is holding its Centennial Meeting during the week of October 5th. On behalf of the President and members of the Nova Scotia Division, he extended a cordial invitation to the members to attend. He indicated his appreciation of the decision of the Executive Committee to hold its autumn meeting in Halifax during the Centennial celebration.

SENIOR MEMBERS

15. In accordance with the provision of Chapter II, Section 3, of the By-laws, the following members were nominated by their respective Divisions and have been elected to Senior Membership of this Association:

- British Columbia—Dr. Hermann M. Robertson, Victoria.
Alberta—Dr. Jermyn O. Baker, Edmonton.
Saskatchewan—Dr. Robert G. Ferguson, Regina.
Manitoba—1. Dr. Hugh McGavin, Plum Coulee and 2. Dr. Alexander Gibson, Winnipeg.
Ontario—Dr. Alexander F. MacKenzie, Moncton.
Quebec—Dr. Frank S. Patch, Strathmore.
New Brunswick—Dr. E. O. Thomas, St. Stephen.
Nova Scotia—Dr. Arthur E. Doull, Sr., Halifax.
Prince Edward Island—Dr. E. T. Tanton, Summerside.
Newfoundland—Dr. Cluny Macpherson, St. John's.

Adopted.

MEMBERSHIP

16. The following is a comparative statement of membership for the calendar year 1952, and for the year 1953 as at August 1:

Province	1952	1953
British Columbia	953	953
Alberta	918	938
Saskatchewan	734	739
Manitoba	726	718
Ontario	3,954	3,942
Quebec	1,324	1,042
New Brunswick	379	361
Nova Scotia	476	429
Prince Edward Island	72	73
Newfoundland	113	106
North West Territories	2	
Members-at-Large . .	35	27
Military membership	48	47
Totals	9,734	9,375

17. It will be recalled that at the last Annual Meeting, General Council increased the annual fee from \$10.00 to \$20.00. It is extremely gratifying to observe that judging by the fees paid to date, the membership has accepted this increase in fee with good grace, believing it to be necessary for the proper functioning of The Association.

Adopted.

The General Secretary stated it was the feeling of the Executive Committee that the Section on Membership as appearing in the Reports to Council is not as clear as it should be, and it is proposed that in future publications it be arranged differently. At present, the total membership for the preceding year is recorded side by side with the paid-up membership for the current year, as at May 1st. Also, there is a large number recorded as representing "unpaid members for 1953". As we are still in the process of collecting fees, this report can only be considered as a progress report and should not be considered as indicating a falling-off of membership. Furthermore, it was reported that there are 472 new members this year to date. The response to the increase in fee has been most gratifying.

WORLD MEDICAL ASSOCIATION

18. The Sixth General Assembly of the World Medical Association was held in Athens from October 11 to 17, 1952. Our President, Dr. Harold Orr, and the General Secretary acted as delegates from the Canadian Medical Association. Our Editor was also present as an alternate delegate and a participant in the Section of Medical Editors. There was an attendance of some 300 from most of the member countries of the free world at this ancient Grecian capital among most hospitable people.

Adopted.

Among the important items discussed were the following:

The medical aspects of Social Security

19. This is one of the most live, and shall we say, critical subjects which faces the medical profession throughout the world. A great deal of information has been gathered from most of the free world and it is anticipated that in the not too distant future, it may be found desirable to hold a World Conference on the medical aspects of social security. Such a meeting should be invaluable as a source of information and guide to the medical profession throughout the world in dealing with governments and the public in general, in this highly important field.

Adopted.

Medical Education

20. Much attention was given to the First World Conference on Medical Education which is to be held in the last week of August, 1953, in London, under the auspices of the World Medical Association and with the co-operation of the World Health Organization, the International Association of Universities, the International Committee of Medical Sciences.

For two years, the Organizing Committee under the chairmanship of Dr. T. C. Routley of Canada, has been preparing for this Conference, which will be presided over by Sir Lionel Whitby, Vice Chancellor and Regius Professor of Physic of Cambridge University.

The official delegates from the C.M.A. are—Dr. G. E. Hobbs, London; Dr. M. M. Weaver, Vancouver; Dr. A. L. Richard, Ottawa.

One hundred and seventy-five speakers from all parts of the world have accepted invitations to participate. The Conference will be conducted in three languages, English, French, and Spanish, with simultaneous translation. The proceedings are to be published and will no doubt be in great demand; as it is hoped that this Conference will provide information of incalculable value, particularly to the underdeveloped countries in their organization of medical schools.

Adopted.

21. An invitation from the Royal Society of Dutch Physicians to hold the Seventh General Assembly in Holland in September 1953 was accepted, Dr. Hultz of Utrecht being elected to the position of President-Elect.

Adopted.

It was announced that Dr. R. W. Richardson and Dr. T. C. Routley have been appointed as delegates from the Canadian Medical Association to the Seventh General Assembly in Holland.

In reply to questions, the General Secretary outlined the influence of W.M.A. on the policies of I.L.O. in relation to the medical aspects of social security. He indicated that the cost to the Canadian Medical Association for the support of W.M.A. amounted to approximately \$400.00 per year for membership dues and approximately \$1,200.00 for the travelling expenses of one delegate to the Annual Assembly.

HOUSING

22. It is anticipated that the Toronto Offices of The Association will shortly be moved to 244 St. George Street, Toronto, the new home of the Ontario Division, where much more accommodation will be provided than is now available at the St. Clair Avenue address.

Several speakers stated their opinion that the expanding activities of the C.M.A. made it desirable to concentrate the administrative functions, preferably in a building owned by the Association. Dr. Harvey outlined the experience of the Ontario Division in acquiring and remodelling a house where the C.M.A. secretarial offices will be located. He stated that the annual rental for the space occupied by the C.M.A. will be \$5,500, that no lease will be required and that the C.M.A. is free to withdraw, should a permanent home be acquired.

Moved by Dr. J. F. C. Anderson, seconded by Dr. Harris McPhedran,

that the Executive Committee be requested by Council to consider the feasibility of establishing a permanent home for the Canadian Medical Association. *Carried.*

REPORT OF A MEETING OF THE EXPLORATORY COMMITTEE ON ACCREDITATION OF GENERAL PRACTITIONERS TO THE EXECUTIVE COMMITTEE OF THE CANADIAN MEDICAL ASSOCIATION APRIL 22 - 23, 1953

23. At the last meeting of General Council it was agreed that the question of setting up some machinery for the accreditation of general practitioners should be carefully studied during the ensuing year. Accordingly a Sub-Committee was named for the purpose.

Here follows the essential part of the report of that Sub-Committee made April 23, 1953. (Because of its importance at this time it is reported *in extenso* omitting only its preamble):

"After long and careful consideration, not overlooking many discussions which have taken place on the subject in many parts of Canada, over the past five years, your Committee desires to present the following observations and recommendations:

1. It is the unanimous opinion of the Committee that there should be established in Canada a body which is capable of carrying out a program of accreditation of general practitioners and all matters ancillary thereto.
2. Having arrived at this conclusion, your Committee canvassed the various possibilities by which such a program could be carried through. In this study consideration was given to the following:
 - (a) an additional task to be assumed by the Royal College of Physicians and Surgeons of Canada.
 - (b) a function to be assumed by the Section on General Practice of the Canadian Medical Association.

(c) an arrangement of affiliation on a voluntary basis of the General Practitioners of Canada with the American Academy of General Practice.

(d) setting up of an institution analogous to:

- (1) The College of General Practitioners of the United Kingdom, or,
- (2) The American Academy of General Practice, or,
- (3) a new organization which we choose to call The College of General Practitioners of Canada.

After most careful consideration of these several possibilities, your Committee unanimously approved that No. (d)3 is the procedure of choice, namely, The College of General Practitioners of Canada. In arriving at this conclusion your Committee would make reference to the following points.

1. In conversations held with the Royal College of Physicians and Surgeons of Canada, that body expressed sympathetic consideration of our problem but no encouragement was given to the joint committee that the College could or would assume the task. With this point of view your Committee is in full accord.
2. Having regard to the present functions of the Section on General Practice and the constitution of the Canadian Medical Association under which the section functions, your Committee feels that the Section as such is not the proper body to carry out the function.
3. Your Committee is of the opinion that affiliation with the American Academy of General Practice would not meet the needs of the Canadian situation, notwithstanding the fact that the Committee has formed a high regard for the American Academy of General Practice.
4. Your Committee therefore feels that the organization of choice should be The College of General Practitioners of Canada. The Committee did consider as an alternate name, The College of Personal Physicians of Canada.

Your Committee would recommend through the Executive Committee to General Council that the proper machinery should be set up to bring the proposal to fruition. Your Committee is fully aware of the advisability and necessity of Council being fully satisfied that the establishment of a College of General Practitioners of Canada is highly desirable. In order that Council and the ten constituent bodies, which it represents may have sufficient evidence upon which to arrive at a conclusion, your Committee now desires to set down some of the reasons for, and the aims and objects of the proposed College.

The reasons for such a College:

1. To raise the standards of education of General Practitioners in Canada in order that they may raise the standards of medical care in Canada.
2. Similar movements established in the United Kingdom and the United States are calculated to foster a high level of medical care in those countries.

Among the aims and objects are the following:

1. To establish an academic body with broad educational aims.
2. To arrange for undergraduate teaching by and for General Practitioners.
3. To arrange for the presentation of Postgraduate education for General Practitioners.
4. To arrange for Research in General Practice.
5. To arrange for publication of original articles by General Practitioners.
6. To arrange for Hospital Staff Appointments for General Practitioners.
7. To provide suitable recognition to members in the field of General Practice.
8. To do all things necessary to maintain a high standard in General Practice.

How can this College be formed? Your Committee having noted how the Royal College of Physicians and Surgeons of Canada was organized some twenty-five years ago by the Canadian Medical Association, would respectfully recommend that similar procedure be adopted in respect to the College of General Practitioners of Canada. To wit:

1. That a nucleus Committee be appointed by the Canadian Medical Association to carry on the project.
 2. That the nucleus Committee be instructed to consult with the Section on General Practice of the Canadian Medical Association and the Executive Committee of the Canadian Medical Association with respect to their implementation of this report."
24. Your Executive Committee recommends the adoption of the report of the Sub-Committee with the following provisos:
1. That it be understood that membership in the Canadian Medical Association, the Divisional Association, and a Local Society will be pre-requisites to membership in the College.
 2. That the College shall not assume medico-political functions which properly belong to the Canadian Medical Association.
 3. That the closest co-operation shall be maintained between the College and the Canadian Medical Association, having in view the constant desire to keep the strength of the Canadian Medical Association at the high level which it must enjoy to fulfil the functions which are expected of it.

A general discussion of the important matters dealt with in these sections ensued. Dr. Victor Johnston emphasized that the Section on General Practice felt the need for the recognition of merit and skill in general practice and that this is what is meant when the term "accreditation" is used. He made it clear that the proposed College is primarily educational in its purposes and that it is not proposed that this body shall assume medico-political functions as these are regarded as the field of the C.M.A. and its Divisions acting for the whole profession. Although the details of the by-laws and regulations of the Canadian College of General Practitioners will constitute the work of a constitutional committee, it was recommended that a basic qualification for membership should be either membership in the Canadian Medical Association or L'Association des Médecins de Langue Française du Canada. Finally, it was

Moved by Dr. McPhedran, seconded by Dr. Schmaltz, that the report of the Exploratory Committee on Accreditation of General Practitioners be approved in principle. Carried.

Moved by Dr. Gass, seconded by Dr. Stalker, that this General Council authorize the Section on General Practice to recommend to the Executive Committee for appointment, the personnel of an Organizing Committee to proceed with the establishment of a College of General Practitioners and to establish standards of membership, by-laws, etc., and to do all other things necessary to achieve this end. Carried.

At this point the Committee of the Whole resolved itself into executive session of the General Council for the purpose of electing a Nominating Committee. Under the terms of Chapter VI, Section (1) of the By-laws, the following were elected members of the Nominating Committee:

Dr. J. A. Ganshorn, B.C.; Dr. M. A. R. Young, Alta.; Dr. F. E. Werthenbach, Sask.; Dr. C. W. Wiebe, Man.; Dr. R. H. Malyon, Ont.; Dr. W. deM. Sriver, Que.; Dr. A. F. VanWart, N.B.; Dr. Hugh McKay, N.S.; Dr. W. J. P. MacMillan, P.E.I.; Dr. James McGrath, Nfld.

Reverting to Committee of the Whole, the consideration of the Report of the Executive Committee was continued.

FLOOD DISASTER RELIEF

25. Upon learning of the frightful destruction which accompanied the floods and tornados which struck the British Isles and Holland, the Association sent \$1,000 to the British Medical Association and a like amount to the Royal Dutch Medical Association giving practical expression to our sympathy and good-will. Messages of profound thanks and appreciation have been received from both Associations.

Adopted.

STAFFING

26. Dr. Routley has asked to be relieved of the General Secretaryship at the Annual Meeting a year hence and your Committee recommends that Dr. A. D. Kelly, the Deputy General Secretary, be appointed to succeed him. Dr. Routley has agreed to continue to serve the Association in a consultative capacity.

27. The Editor having reached the retirement age, the Executive Committee is now seeking a successor. Dr. MacDermot has agreed to continue in his present office until a suitable replacement is available.

28. Steps are being taken to engage an Assistant Secretary and additional help for the Editorial Department.

Adopted.

REPORT OF THE MEETING OF THE CANADIAN MEDICAL ASSOCIATION WITH MEMBERS OF L'ASSOCIATION DES MÉDECINS DE LANGUE FRANÇAISE DU CANADA

29. Promoted by your Executive a dinner was held at the University Club in Montreal on Saturday, January 24. The following were present:

Dr. Emile Blain
Dr. Roma Amyot
Dr. J. Avila Denoncourt
Dr. Jean-Baptiste Jobin
Dr. Rene-L. Duberger
Dr. J-Marie LaFramboise
Dr. H. Trudel

representing L'Association des Médecins de Langue Française du Canada and

Dr. C. W. Burns
Dr. Norman H. Gosse, (Chairman)
Dr. E. S. Mills
Dr. J. R. Lemieux
Dr. R. H. Malyon
Dr. H. T. Ewart
Dr. A. D. Kelly
Dr. T. C. Routley

representing the C.M.A.

30. The purpose of the meeting was to establish friendly relations between the two Associations and it was hoped by many of us that out of it would have come an agreement for a joint committee, or some such body, by which machinery for the fostering of such relationship could be developed. It is hoped that this may eventually be brought about.

Dr. Gosse reported that a subsequent meeting with representatives of L'Association had been held on June 6th, at which agreement had been reached on the desirability of liaison.

Moved by Dr. Gosse, seconded by Dr. MacMillan,

that the Incoming Executive Committee be instructed to appoint a committee to form, with representatives of L'Association des Médecins de Langue Française du Canada, a working party charged with the responsibility of working out the terms of reference under which the liaison committee between the Canadian Medical Association and L'Association des Médecins de Langue Française du Canada would perform the duties which could be assigned to this liaison committee and how such committee would function.

Carried.

F. N. G. STARR AWARD

31. On the recommendation of the Committee on Awards, Lectures, and Scholarships, Dr. Charles F. Martin of Montreal has been selected to receive the Starr medal this year. Dr. Martin in his long and illustrious career has rendered most notable service to the Canadian Medical Association and was President of the Association in 1923. General Council will desire to join with Dr. Martin's hosts of friends in complimenting him upon having been chosen for this high honour, the highest in the gift of the Association to bestow upon one of its members for distinguished service.

Adopted.

CENTENARY OF THE NOVA SCOTIA DIVISION

32. An event of great importance and historic interest will be celebrated in October of this year when the Nova Scotia Division celebrates its one hundredth anniversary—the first Medical Association in Canada to have reached the century mark. In recognition of this event, the Executive Committee will hold its Autumn meeting in Halifax on October 9 and 10 and will be present in a body to greet the Division at its banquet on the evening of October 9.

Adopted.

THE CANADIAN COMMISSION ON NURSING

33. For approximately two years representatives of this Association have co-operated with representatives of the Canadian Nurses Association and the Canadian Hospital Council in a study of nursing services in Canada. Despite the fact that schools of nursing at all levels appear to be attracting an adequate proportion of the young women who attain the required educational status, and despite the facilities for training Certified Nursing Assistants, a shortage of nursing services exists and in some parts of the country it is a limiting factor to the development of more adequate health services.

34. The recommendations of the Provincial Health Surveys have been reviewed and if any doubt should remain that nursing services require assistance, a perusal of this material would remove it. The proposals vary widely from province to province, but the majority recommend financial help to permit existing schools to enlarge and to permit the establishment of new schools for both registered nurses and nursing assistants. Reference is frequently made to the new development of central schools of nursing and to the place of University schools of nursing.

35. Aside from the useful information which has come to the members of the Commission through these studies and apart from some efforts designed to stimulate and maintain the supply of recruits for nursing, the Commission has not been in a position to take effective action to cope with a major problem. Consideration has been given to two possible courses; to obtain financial support from Foundations interested in health with a view to establishing a staff for the Commission and continuing its work on a voluntary and unofficial basis, or to attempt to have established under Federal auspices a body analogous to the National Advisory Committee on the Rehabilitation of Disabled Persons, which would undertake to provide for Nursing the organization and the public funds which appear to be required. At the last meeting of the Commission, a majority favoured the latter alternative. Your Executive Committee has been informed of the thoughts of the Commission on the issues which face them and has deferred decision on advising the representatives of The Association as to what course should be supported.

An interesting discussion took place in which the following points emerged; the duties of bedside nursing may not require as high a standard of education as is now demanded; the training schools of large urban hospitals appear to have little difficulty in attracting full enrolments but many of the smaller schools are short of applicants; there may be some difference of opinion among the nursing profession as to the preferred method of training nurses but there is available the choice of

a university school, a hospital school, a central school with shortened course, and a course for Nursing Assistants; it is doubtful if the proportion of young women applying for nursing education can be increased from the current 30% of matriculants; it should be possible to devise an educational system whereby progression from nursing assistant, to registered nurse, to supervisor could occur; ultimate responsibility for a sufficiency of nursing services probably resides with Provincial Departments of Health. The debate was terminated on the presentation of the following resolutions:

Moved by Dr. Ewart, seconded by Dr. Harvey,

that this General Council encourage the activities of the Canadian Commission on Nursing in exploring all channels to alleviate the apparent shortage of nurses. *Carried.*

Moved by Dr. White, seconded by Dr. Coppock,

that the Executive Committee appoint a Special Committee on Nursing to make an independent study and to advise the Association's representatives on the Canadian Commission on Nursing. *Carried.*

Moved by Dr. Gosse, seconded by Dr. Ewart,

that Sections 33, 34 and 35 be adopted. *Carried.*

CIVIL DEFENCE

36. In collaboration with the Civil Defence Health Planning Groups of the Department of National Health and Welfare, and a distinguished panel of contributors, a Special Issue of the *Canadian Medical Association Journal* devoted to the medical aspects of Civil Defence was published in December 1952. The material in this issue has given rise to much favourable comment and it is hoped that the authoritative information contained between its attractive covers will prove useful to the whole profession.

37. A series of Regional Conferences devoted to Civil Defence in its medical and related aspects were held in several Canadian centres during the past Winter. These conferences served a useful purpose in stimulating and co-ordinating provincial and local planning and activity. The indoctrination of a large number of doctors in the problems of Civil Defence is helpful and this is probably an essential prelude to the more active steps which will be required in many localities.

Adopted.

CANADIAN ASSOCIATION OF MEDICAL STUDENTS
AND INTERNES

38. The Sixteenth Annual Conference of C.A.M.S.I. was held in October 1952 at Laval University, the home school of the National Executive of that year. In common with many other national organizations, C.A.M.S.I. participated in the tri-centenary of that ancient foundation and contributed to it the youthful vigour of the junior organization of our profession. The Deputy General Secretary represented the Canadian Medical Association at this conference and he reports that C.A.M.S.I. is busy with many projects which concern the welfare of medical students at every Canadian school.

39. Considerations of finance have hitherto made it necessary for C.A.M.S.I. to elect its National Executive from, and hold its conferences at, medical schools which are located in central Canada. To make the organization truly national it is desirable that all schools be involved in these responsibilities and it was decided to appeal to the Canadian Medical Association for assistance in establishing a travel fund. Your Executive Committee has considered this request and a grant of \$500 for the current year has been forwarded to C.A.M.S.I.

40. The Secretarial Office of the C.M.A. has again co-operated with C.A.M.S.I. in the operation of the Canadian Interne Placement Service. 337 final year students from the five participating medical schools utilized the services of C.I.P.S. in seeking first internship at 40 approved hospitals in Canada. Of these, 96% were assigned to the hospital of their first choice and

only one student was unplaced. As the number of approved internships greatly exceeds the available graduates, the results from the viewpoint of the hospitals were less impressive. Despite this inevitable deficit C.I.P.S. has demonstrated that it is an effective means of affording freedom of choice to both students and hospitals and the National Intern Matching Plan which has operated for two years in the United States is modelled closely on the principles and practices established in C.I.P.S.

41. The National Executive for 1953 is comprised of students at the University of Ottawa. It is hoped that two representatives of C.A.M.S.I. will attend this meeting of the General Council.

Adopted.

Mr. William Firlotte, National Treasurer of C.A.M.S.I., was invited to address the General Council. He expressed the gratitude of his organization for the donation of \$500.00 and briefly referred to the problems of intern remuneration, preceptorships and undergraduate scholarships which are engaging the attention of C.A.M.S.I.

RETIREMENT FUNDS

42. In conjunction with a number of professional organizations including the Association of Professional Engineers, the Canadian Institute of Chartered Accountants, the Law Society of Upper Canada and the Royal Architectural Institute of Canada, a determined effort was made to obtain tax deferment on pension contributions. The services of an eminent counsel were engaged and a detailed brief was presented to the Minister of Finance together with a suggested amendment to the Income Tax Act. The inequitable position of self-employed taxpayers, when compared with the privileges afforded members of approved pension plans, was stressed and it was confidently expected that these representations would be effective. It was disappointing to learn that the Budget presentation made no reference to legislation in this field and it is only possible to report that our efforts have again been unsuccessful.

Adopted.

Dr. Ganshorn referred to an experiment authorized in British Columbia whereby twenty-five physicians will permit Medical Services Association to act in the rôle of employer to make contributions on their behalf to a pension fund. It is their hope that this arrangement may be recognized as an Approved Pension Plan and the participants permitted to defer income tax on contributions which they make. Dr. Morgan mentioned that in Alberta a similar proposal with their prepaid medical care plan had been rejected by the Division because it was not considered wise to regard the plan as the employer of participating physicians.

HOSPITAL ACCREDITATION

43. Your Executive Committee has been kept fully informed of the activities of the Canadian Commission on Hospital Accreditation which are outlined more adequately elsewhere in these reports to the General Council. The Canadian Commission, representative of the Canadian Hospital Council, the Royal College of Physicians and Surgeons of Canada, L'Association des Medecins de Langue Francaise du Canada and this Association, has concluded that the establishment of an exclusively Canadian program is not feasible at this time. To provide for more adequate services to hospitals it is now proposed that the services of a field representative be financed jointly by the participating Canadian agencies and that his work should be used to supplement the inspection service now provided through the Joint Commission on Accreditation of Hospitals.

Discussion was deferred until the consideration of the Report of the Committee on Standardization and Approval of Hospitals.

THE "DOCTOR DRAFT" IN THE UNITED STATES

44. In the autumn of 1952 your Executive Committee became aware of the effect of Public Law 779 of the United States on Canadian doctors temporarily or permanently resident in the United States. If called up for service in the armed forces these doctors were not granted deferment for previous military service as were American doctors and this situation resulted in hardship which was apparently not intended when the law was framed. The aid of the Department of External Affairs and of the American Medical Association was invoked and in both cases prompt and energetic action was taken on behalf of the Canadian doctors affected. One tangible result has been the issuance of Operations Bulletin No. 89 by the Director of U.S. Selective Service, which "postpones the induction of registrants who have performed active military service in the armed forces of a co-belligerent nation". It would appear that Canadian doctors are now afforded equality of treatment with their American colleagues. Canadian doctors without previous military service who proceed to the United States are subject to the laws of that country and their position is the subject of a "Warning Circular" which has been issued by the Department of External Affairs.

Adopted.

Acknowledgment was made of the prompt and helpful co-operation of the Department of External Affairs in dealing with this matter.

Dr. George Lull, Secretary of the American Medical Association, stated that there was no doubt but that the new legislation will recognize the previous military service of Canadian doctors as well as other co-belligerents. He said that the A.M.A. had been unsuccessful in its efforts to have the "Doctor Draft" continued for a period of only one year and that the new law will be in force for two years.

MEMBERSHIP FEES

45. A survey of the fee structure for the various classes of members of the Divisions has been undertaken and it is evident that wide variations exist from one province to another. Such classifications as ordinary members in practice, recent graduates, husband and wife in practice, Divisional life members, C.M.A. Senior Members, salaried doctors and members of a given age and seniority in practice are all represented in separate categories at different fees. The proportion of the conjoint annual fee payable for membership in the Canadian Medical Association also shows a lack of uniformity. Under the terms of Federation the Divisions are the responsible agents of the National Association in all matters related to membership. It is proposed that the Committee on Membership be assigned the task of a detailed study of the situation in the hope that recommendations to the Divisions may emerge which will assist them in arriving at an equitable fee structure.

Adopted.

PUBLIC RELATIONS

46. Increasing interest in improving the relations of the medical profession with the public is evident. Divisional Committees on Public Relations have been established in all provinces and they are at various stages of development in learning the methods of presenting our views and promoting better understanding of our motives. The work of the Committee on Public Relations of the British Columbia Division must be mentioned with special commendation. This Committee has originated a weekly radio program, "Doctors' Viewpoint", and has sponsored a series of newspaper columns. In addition to these major activities the Committee has been very alert to the complaints, grievances and misunderstandings which inevitably arise and has taken steps for their correction. This unspectacular activity is the very essence of a sincere desire to deserve better public relations and as such it commands the support of every doctor. Many local medical societies, large and small, have done valuable work in their own

localities by establishing emergency call answering services, by promoting better relations with the press and by a variety of activities intended to enhance the reputation of the profession.

47. In the report of the C.M.A. Committee on Public Relations will be found a recommendation that a conference of Divisional representatives be called in the ensuing year to co-ordinate our diverse activities in this field. Your Executive Committee feels that such a conference should serve a very useful purpose.

Discussion was deferred until the consideration of the Report of the Committee on Public Relations.

ADVISORY COMMITTEE TO THE DEPARTMENT OF NATIONAL HEALTH

48. Among the standing committees of The Association is a small representative committee whose duty it is to advise the Minister of National Health and Welfare, at his request, on matters concerning the relationship of his Department to the medical profession. A brief reference in the Speech from the Throne made it evident that changes in the National Health Grant Program were likely to be proposed at the current session of Parliament. As The Association had been consulted when the original Health Grants were in the formative stage five years ago, it was reasonable that discussion should be held with the Minister on any plans for modification of the grants. On February 19 the Advisory Committee was assembled in Ottawa and was immediately confronted with the condition that the subject under discussion must be regarded as strictly confidential until announcement of the proposals was made to Parliament. With some reluctance the Committee accepted this condition. It accepted it, however, in the belief that a more effective service can be rendered if consultation is carried out before legislation is brought to finality. Proposals relative to modification of the Hospital Construction Grant, to new grants for Maternal and Child Hygiene, for Rehabilitation and for Diagnostic Services were outlined to the Committee. Each of the proposed grants was discussed in detail and the reaction of the members of the Committee was freely expressed. In general, the proposals of the Department in respect of the first three grants were concurred in and the debate centred about the proposed grant for laboratory and radiological services which was recognized as a departure from the pattern of all preceding grants.

49. Following a full discussion, the opinions expressed by members of the Committee were recorded and circulated to them for verification and then transmitted to the Deputy Minister of National Health in the following letter:

"On behalf of the Advisory Committee of this Association to the Department of National Health and Welfare, permit me to thank you for the opportunity of discussing with your Minister, Dr. Jackson and yourself the proposals for the modification of the National Health Grant program. To supplement the opinions expressed verbally, I am directed to communicate to you our reaction to the various plans which you outlined to us.

Hospital Construction Grant

We agree that it is unlikely that the construction of new hospital beds and facilities will proceed at the rate experienced in the past five years and that it is reasonable to reduce the total grant for new construction. We feel, however, that only second in importance to the stimulation of construction of new facilities, is the renovation and modernization of existing hospital accommodation, which is obsolescent or otherwise unsuitable. If this is considered to be a worthy program to pursue, it would seem wise to retain in the Hospital Construction Grant sufficient funds to assist the provinces to encourage the modernization of many existing hospital facilities.

Proposed New Grant for Maternal and Child Hygiene

The Advisory Committee supports fully all efforts to reduce infant and maternal mortality. In this proposed grant, we see the opportunity for provinces to extend services, largely of a preventive character, in these fields and we endorse the integration of medical practitioners in the program as outlined to us.

Proposed New Grant for Rehabilitation

We feel that this grant, if properly administered, may assist materially public general hospitals to institute rehabilitation services for patients of all types. Interest in the non-medical aspects of rehabilitation has in some instances outstripped the ability of medical and hospital personnel to make adequate provision for physical medicine and similar restorative services. This grant should at least provide for demonstrations in medical rehabilitation at selected general and convalescent hospitals.

Proposed Grant for Diagnostic Services

On the basis of experience in one province and with due regard to the complexity of diagnosis as an important element in medical practice, we would at the outset recommend a modification of terminology used in discussions of this proposal. Instead of referring to this as a grant for diagnostic services, or diagnostic facilities, it would appear preferable to refer to the proposed grant as one for laboratory and radiological services.

While we appreciate that this proposed grant is intended to stimulate the provision of laboratory and radiological services in areas inadequately served at present, we envisage serious difficulties in its implementation and a possible lowering of standards in areas where such services are now provided at a high level of excellence. The provision of public funds in the amounts mentioned will unquestionably be interpreted as leading to the inauguration of services free to the recipient at the time they are rendered or payable at a greatly reduced rate. While it may be necessary to consider such use of public funds to initiate services where they are now lacking, it seems illogical and administratively difficult to deny the accompanying economic advantage to all citizens of a province which may introduce such a program.

The consequence of such extension of publicly provided laboratory and radiological services would, we feel, tend to standardize them at a level lower than the best services now rendered. The competition of a state-subsidized service could not fail to be detrimental to the continued operation of laboratory and x-ray services under private auspices.

For example, the clinical laboratory services now provided in University laboratories and those of teaching hospitals, are generally of a high order and they are necessarily more expensive than those of laboratories generally. These laboratories are important training centres and they have been vital factors in the advance of clinical medicine. It is our view that the provision of this grant in the amounts discussed may encourage the provinces to establish programs which might be harmful to these existing services.

The present relationships between pathologists, bacteriologists and radiologists and the hospitals in which they work is one which transcends the supervision of the technical work of their departments. These individuals are in most instances key figures in the organization of the medical staff and their contribution to the quality of medical work carried out in their hospitals is significant. Any alteration in their status, such as might be occasioned by an obligation to supervise testing procedures carried out in a wholesale manner, could scarcely fail to be reflected in decreased attention to those duties which make them so valuable to the institutions they serve. The interests of patients would not be benefited if any such levelling down took place and it is this prospect which in part induces our scepticism of the merits of the proposal.

The provision of qualified personnel to staff the units of such public services as may be developed is another matter which gives us concern. Pathologists,

bacteriologists and radiologists are members of the medical profession who are at this time in inadequate supply. We are not convinced that the optimum development of their special fields will be encouraged by their exclusive employment in the public service, a consequence which may readily follow the widespread acceptance of the grant under discussion. It appears to us to be absolutely essential that any extension of laboratory and x-ray services be under the direction and with the active participation of medically qualified specialists in these fields and that any compromise with this would result in an inferior service. It is possible that the training and recruitment of doctors for these specialties might be seriously handicapped if the principal opportunity for employment were to be in government service.

The shortage of quality laboratory and radiological technicians is well known and efforts are being made under public and private auspices to facilitate their training and retain them in the field. Such shortages, while regrettable, are tolerable under conditions as they exist, but the implied promise of service when governments enter the field will have the effect of accentuating the deficit in personnel and may lead to unsound practices in training.

These represent some of the doubts we have in relation to the proposed grant for laboratory and x-ray services and we hope that you will consider them seriously with the end in view of modifying the grant or the terms of its availability. Should you require additional consultation with well informed representatives of the fields of pathology, bacteriology and radiology, we would be prepared to arrange it and in view of the importance of this whole matter, we feel that such further discussion would be wise."

50. The terms of the grants as submitted to Parliament were made public on May 1 and the essential features will be familiar to the members of the General Council. As with the other Health Grants the implementation of the programs for which financial aid is provided will remain with the individual provinces. The customary system of origination of projects in the Provincial Departments of Health and their submission for approval to the Federal Department will be followed.

Adopted.

The Chairman indicated that representatives of the Canadian Association of Radiologists and the Canadian Association of Pathologists were present by invitation and offered them an opportunity to present their views. Dr. R. A. Macpherson, President of the Canadian Association of Radiologists, read the following brief:

BRIEF SUBMITTED BY MEMBERS OF THE SECTION OF RADIOLOGY, CANADIAN MEDICAL ASSOCIATION AND APPROVED BY THE CANADIAN ASSOCIATION OF RADIOLOGISTS TO THE GENERAL COUNCIL OF THE CANADIAN MEDICAL ASSOCIATION, BY INVITATION

— re —

NATIONAL HEALTH GRANTS FOR RADIOLOGICAL SERVICES

We approve in Principle:

1. The statement of policy of the Canadian Medical Association with respect to health insurance, approved by General Council, June 14th, 1949.
2. The statements of Dr. A. D. Kelly, Deputy General Secretary of the Canadian Medical Association in a letter to Dr. G. D. W. Cameron, Deputy Minister of Health, Department of National Health and Welfare, March 4th, 1953.
3. The statement made by the Honourable Paul Martin, Minister of National Health and Welfare as reported in Hansard, Friday, May 1st, 1953—pages 4680-4687, as follows: "Provincial projects under this grant will be devoted primarily to the development of improved facilities in those areas that are not now adequately served. There is no thought of duplicating existing services if they are performing a useful and economical function.

The services now provided by the major laboratories and in the larger hospitals and universities are second to none."

We are concerned with the trend of Government policy whereby "personal health services" are to be incorporated into Government health services. The Government now controls directly or through subsidies: Preventive Medicine, Mental Health, Tuberculosis, Cancer Control, Venereal Disease, Arthritis and Rheumatism, and they now propose to subsidize Laboratory Services, Radiological Services, Rehabilitation, and Maternal and Child Health. This involves directly the pathologist, bacteriologist, biochemist, orthopaedic surgeon, obstetrician, gynaecologist, paediatrician, in fact almost the complete gamut of medical specialists. Government control of any branch of medical service usually implies complete control of medical personnel and eventually leads to State Medicine. Is it the policy of the Canadian Medical Association to condone this gradual approach to State Medicine? Must we not reaffirm the principles laid down in 1949?

There can be no criticism of the desire of governments to improve the health of our people. We must take the lead in promoting public welfare, but is State Medicine a forward or backward step? Radiology is a personal medical service and radiologists are subject to the same responsibilities and privileges that their colleagues enjoy in other branches of medicine. We believe that state control of radiology would be detrimental to the progress of this important personal branch of medical science. As pointed out by Dr. Kelly in his letter of March 4th, 1953: "The present relationships, between pathologists, bacteriologists and radiologists and the hospitals in which they work is one which transcends the supervision of the technical work of their departments. These individuals are, in most instances, key figures in the organization of medical staff and their contribution to the quality of the medical work carried out in their hospitals is significant. Any alteration in their status such as might be occasioned by an obligation to supervise testing procedures carried out in a wholesale manner, could scarcely fail to be reflected in decreased attention to those duties which make them so valuable to the institutions they serve. The interests of patients would not be benefited if any such leveling down took place and it is this prospect which in part induces our skepticism of the merits of the proposal."

At the present time it is common knowledge that there is no surplus of trained or partly trained radiologists in Canada. Great Britain or the United States. From present indications this will not be changed in the immediate future. Practically all certified radiologists in Canada are now working more intensively than they should, and, in spite of this, they are barely keeping up their routine work much less with their scientific writing and their research. It must be remembered that there is a definite physical hazard inherent in the practice of radiology.

It is hoped that the Canadian Medical Association and the provincial divisions will now be requested by the Provincial Governments for guidance in the implementation of the public health service grants. Where present facilities are adequate for radiological services, we agree that it is impractical for the Government to go into competition by establishing separate diagnostic units. The continually increasing volume of work would be more adequately taken care of by the enlargement of existing facilities rather than by the establishment of new ones. Evidently, the Honourable Mr. Martin concurs in this opinion.

Certified radiologists are practising physicians who have not only graduated in medicine, but have also spent long periods of postgraduate study to become proficient in their specialty. By virtue of their training they are entitled to receive, as do other physicians, a fee for their services. As has been discovered so often in the past, the failure to adhere to this principal frequently leads to exploitation of the physician. Doubtless some of the present scarcity of radiologists results from

such unfortunate occurrences, and, unless a fee for service type of payment is adhered to in the future, the present shortage of trained radiologists may well be accentuated. Furthermore, it will only be a matter of time before physicians in other fields will be employed in the same unsatisfactory manner and ultimately, be deprived of their right to a fee for service, and the patient deprived of the freedom of choice of physician.

It is thoroughly agreed that diagnostic radiological services should be provided to as great an extent as possible in rural areas which are now not adequately served. It is also felt that it is quite wrong for such services to be rendered in rural areas at the expense of the Government with little or no cost to the patient who is able to pay when such conditions do not exist in urban centres in the same province. Not only is this unfair to the general taxpayer but it also tends to promote an unnecessary increase in the radiological services demanded.

Dr. Desmond Magner, representing the Canadian Association of Pathologists, expressed the concurrence of his organization in the views put forward by the Advisory Committee. He felt that state control of pathology would be detrimental to that branch of medicine and saw in the Grant for Laboratory and Radiological Services the possibility that the state would invade this field.

Dr. G. D. W. Cameron outlined the background of the downward revision of the Hospital Construction Grant and the initiation of the three new Health Grants. He emphasized that the monies made available would only be forthcoming to finance approved projects, originated in the provinces, without the areas covered by the terms of the grants. He said that no such projects had yet been received and that the profession should consult with provincial Departments of Health to insure that services under these grants were extended in directions which the profession would approve.

In discussion of the confidential position in which the Advisory Committee found itself, the viewpoint was expressed that negotiators for the profession frequently faced the situation where the other parties had decided how to proceed and the utmost that can be done is to amend and modify such plans. Early consultation was essential and positive recommendations of what the profession advocated was desirable. In the present instance General Council accepted the fact that the Advisory Committee had been consulted as soon as the Minister was available, that the C.M.A. had been consulted in advance of other organizations and official bodies, that the topic of discussion had been unknown before the meeting, that Parliamentary practice demanded secrecy prior to the time when legislation is laid before the House of Commons and that the Advisory Committee was justified in acting in a confidential manner.

The opinion of the General Council was crystallized in the following resolutions:

Moved by Dr. Gosse, seconded by Dr. MacMillan,

that with the information currently at our disposal with respect to a Federal Health Grant for Laboratory and Radiological Services, General Council recognizes the need for improved Laboratory and Radiological services in some areas throughout Canada, and approves this Grant in principle, providing that its administration conforms with the provisions of our Statement of Policy. *Carried.*

Moved by Dr. Gosse, seconded by Dr. MacMillan,

WHEREAS the medical profession of Canada comprises multiple segments with varying endeavours and interests, and
WHEREAS basically it is recognized that the welfare of the whole is paramount, consequently it follows that medicine of necessity must speak with one voice

THEREFORE BE IT RESOLVED that General Council

recommends that the parent bodies of organized medicine in Canada be designated to negotiate in unison all matters on the Federal level. Further it is understood that the Advisory Committee to the Minister of National Health and Welfare have power to add to their number as the occasion arises and warrants. *Carried.*

Moved by Dr. Macpherson, seconded by Dr. McRae,

that the Canadian Medical Association suggests to the Department of National Health and Welfare that funds provided for radiological diagnostic services be used in the following manner:

- (a) to increase diagnostic x-ray services in certain areas where these services are non-existent or inadequate;
- (b) to contribute on a fee-for-service basis to the radiological diagnostic services, for indigent and public ward patients;
- (c) to subsidize prepayment medical plans for individuals with low incomes. *Carried.*

Moved by Dr. White, seconded by Dr. Ganshorn,

that the Advisory Committee to the Minister of National Health and Welfare be broadened and charged with the duty of making representations to the Department frequently and constantly regarding the policy of the C.M.A. on health insurance to the end that nothing Government may do will thwart this policy but will tend to implement it. *Carried.*

REHABILITATION OF THE HANDICAPPED

51. The interest of government in salvaging the human wastage from disabling disease and injury has given rise to the establishment of the National Advisory Committee on the Rehabilitation of Disabled Persons. The committee is comprised of representatives of official and voluntary agencies representative of labour, education, welfare and health, and Dr. H. Hoyle Campbell has represented this Association. It is agreed that the success of any rehabilitation program will depend on the accurate medical assessment of the disabled person in order that re-establishment may be carried out with due regard to his physical and mental capacity. The profession will be required to work out methods of assessment and, if possible, of standardizing the findings of individual capabilities for purposes of re-employment or re-education.

52. The new Health Grant may make it possible to establish pilot experimental projects in certain community hospitals. It is probable that rehabilitation should commence in the locality where the disabled person lives and that his own doctor is probably the best qualified to judge what his capabilities may be. The stimulation of the interest of practitioners in the whole process of rehabilitation and the provision of facilities and standards for medical assessment are considered to be likely to follow the establishment of such pilot rehabilitation centres.

53. Even such fundamental issues as the definition of a disabled person are still unsettled. We appear however to be at the beginning of new developments which will demand the close co-operation of doctors in every field of practice.

Adopted.

Two supplementary resolutions of the Executive Committee relative to the D.V.A. Schedule of Fees were introduced at this point but discussion was deferred until consideration of the Report of the Committee on Economics.

CONCLUSION

54. These, and other matters which will come before you with the presentation of other reports, indicate the increasing multiplicity of the problems—and to some

extent the complexity of the interests—with which this Association is concerned.

Your Executive believes that in dealing with them during the year we have achieved a reasonable measure of success.

All of which is respectfully submitted.

NORMAN H. GOSSE,
Chairman.

On motion, the Committee of the Whole was dissolved and the meeting reverted to a session of the General Council and Dr. Gosse resumed the chair.

Following consideration of the matters deferred for subsequent discussion, it was

Moved by Dr. Thompson, seconded by Dr. Skinner,
that the Report of the Executive Committee as a whole, as amended, be adopted. Carried.

REPORT OF THE HONORARY TREASURER

Mr. Chairman and Members of General Council:

55. It is a pleasure to report that, despite increased expenditures, the year ended with a credit balance of \$4,788.59.

ASSETS

56. Total assets of the Association, as of December 31 last, were \$334,495.90, as compared with \$321,986.32 at the end of the year 1951—an increase of \$12,509.58. These assets consist mainly of cash in the bank (\$63,735.38), general funds invested in government and municipal bonds (\$188,296.53), and some \$67,690.94 in trust and retirement allowance funds.

REVENUE

57. Membership fees compared favourably with the previous year. Advertising, the greatest source of revenue, was up some \$20,000 due mainly to increased rates. Other items showed no change.

EXPENDITURES

58. Expenditures were sharply higher during 1952. The main items accounting for this increase were:

- (a) Added costs of producing the Journal—\$9,000.
- (b) Augmented salaries—\$12,000.
- (c) Travel Expenses—\$8,000.
- (d) Trans-Canada Medical Plans—\$8,000.

INVESTMENTS

59. No change was made in the investments of General Funds. The Association's financial advisers, The Royal Trust Company, were notified of the desire of the Executive Committee to re-invest up to 50% of the General Funds in debentures bearing a higher interest rate, provided it was considered expedient to do so. Considering the low market value of government bonds at the present time, your advisers felt that no purpose would be served at this time by sacrificing capital value for higher yearly revenue.

60. Your Treasurer would recommend that \$25,000 from the large cash balance in the bank as of December 31, 1952 (\$63,735.38) be invested and placed in the General Funds.

All of which is respectfully submitted.

EDWARD S. MILLS,
Honorary-Treasurer.

61. The following Statement of General Fund Revenue and Expenditure for the year ended December 31, 1952 has been approved by our auditors, Messrs. McDonald, Currie and Company:

62. REVENUE	
Membership fees	\$87,911.87
Subscriptions	15,531.80
Advertising, less provision for doubtful accounts	125,800.42
Sundry Journal sales	267.00
Special reprints	1,020.22
Annual meeting	10,819.11
Sales of physicians' formulary	92.86
Revenue from investments and bank interest	5,769.57
Profit on redemption of bonds	100.00
	<hr/> \$247,312.85

63. EXPENDITURE	
Editorial office	\$133,097.65
General Secretary's office	60,721.40
Travelling	27,535.45
Medical economics	2,378.40
Special grants— Trans-Canada Medical Plans	\$8,000.00
Canadian Association of Medical Students and Interns	500.00
	<hr/> 8,500.00
Administration	10,291.36
	<hr/> \$242,524.26

Excess of revenue over expenditure for the
year\$ 4,788.59

Adopted.

REPORT OF THE EDITOR

Mr. Chairman and Members of General Council:

64. I have to report that the publication of the Journal has been carried on regularly.

65. A special issue was brought out in December, making thirteen numbers for the year. This was devoted entirely to Civil Defence and was prepared in co-operation with the Civil Defence Health Planning Group, Department of National Health and Welfare. A French translation was also published. The issue had a special cover bearing the colours of the Medical Corps. It has been given a wide distribution in Canada, being sent to all doctors, dentists, nurses and many of the groups concerned in the Civil Defence program; and favourable comment has been received. The cost was borne entirely by the Department.

66. As regards the main text of the Journal, it is as well to remember that it reflects the medical work and thinking in Canada. Its various papers are contributed by our profession. Only a small proportion of what is received is refused, and that only after careful consideration. Therefore, if there is to be criticism of the contents of the Journal it should begin at its sources. Naturally, it is impossible to suit all tastes, but whilst our Journal is of the "general" type we feel that general practitioners should occasionally be presented with work of even the most specialized type, especially if it contains any new points. It has been noted, judging by the number of requests for reprints, that purely technical reports sometimes attract an unusual amount of attention both in Canada and abroad. At the same time, papers on specialized subjects need careful selection.

67. Lengthy papers continue to be a problem. Only very occasionally do I feel justified in devoting a disproportionate amount of space to a single paper.

68. The dearth of case reports continues. This cannot be for lack of material. I would suggest again also that more use be made of our correspondence columns.

69. New sections have been tried, particularly "Meetings of Societies" and "News and Notes". These latter are specially useful in helping to break up the mass of advertising material in the latter part of the issue.

70. The increase in advertising presents a problem. It is difficult to so place the pages of advertisements that they do not come together in large blocks, even when they are divided between the front and back of the issue. Different plans are possible. There is inter-leaving with the text; or putting some of the reading material in amongst the ads, which is much the same. Whatever objections may be made to these, it is to be remembered that unless there is some such arrangement, our advertising cannot develop as we would like it to do. The subject is being carefully studied.

71. There is a great increase in the number of books sent in for review. It is impossible to review them all but every effort is made to select those of most interest to our readers. Incidentally the handling of these books has made extra help necessary.

72. Work on the 40-year index has been begun, but it has turned out to be a much larger project than expected; good progress is being made.

73. We are arranging for certain changes in the form of the cover which we hope will be an improvement.

74. I wish to thank Dr. Neufeld for his interest and continued assistance. He has made various helpful suggestions in the development of the Journal.

75. To our provincial correspondents go my warmest thanks for their never failing support.

All of which is respectfully submitted.

H. E. MacDERMOT,
Editor.
Adopted.

REPORT OF THE MANAGING EDITOR

Mr. Chairman and Members of General Council:

76. Notwithstanding the fact that printing costs were increased 10%, effective May 1, 1952, and other costs of producing the Journal were increased, we are glad to report that the Journal had a satisfactory financial year.

77. Reference to the Financial Statement discloses the following facts:

A. INCOME

Advertising	\$125,800.42
Subscriptions (not Memberships)	15,531.80
Miscellaneous (reprints, single Journals, etc.)	1,287.22
TOTAL	\$142,619.44

B. EXPENDITURES

Printing	\$ 96,556.95
Salaries	19,068.77
Other Expenses—including agents' commissions, postage, general office expenses, etc.	17,871.93
TOTAL	\$133,497.65

Deducting B from A it will be noted that excess of revenue over costs was \$9,121.79.

Comparative Figures of Circulation:

78. 1951 Total Circulation 147,721 copies averaging 12,310 per month.

1952 Total Circulation 152,738 copies averaging 12,728 per month.

79. Effective January 1, 1953, our advertising rates were again increased approximately 22%. It is anticipated that advertising revenue in the current year should approximate \$150,000, unless there is a recession in business.

80. The Journal has been produced as a monthly publication for forty-two years, never having missed an

issue during that lengthy period. After careful consideration, the Executive Committee has authorized the Managing Editor to make a thorough study of costs and anticipated revenue should the production of the Journal be increased to twenty-four issues a year. There are many factors to be considered including availability of material for publication, printing costs, revenue from advertising and additional staff required. The printers are preparing a sliding scale of costs depending upon the size of the issue. It is proposed to consult with the advertisers to ascertain whether or not they would be interested in placing their copy in our Journal more frequently than is now possible. Your Editor and Managing Editor are of the opinion that the flow of material is sufficient for more frequent publication.

81. It would seem important that General Council at this time should indicate whether or not it would look favourably upon such a step being taken providing that, after most careful investigation, the venture would be financially sound.

82. Working arrangements between the offices of the Editor and the Managing Editor proceed smoothly and satisfactorily.

All of which is respectfully submitted.

T. C. ROUTLEY,
Managing Editor

Supplementary to this report, the Managing Editor presented the essentials of a proposal to increase the frequency of publication of the Journal, and reported that the Executive Committee, having considered carefully the implications, financial and otherwise, of the proposals, recommends that, effective January 1st, 1955, the *Canadian Medical Association Journal* be published twice a month, each issue to contain approximately 128 pages.

Moved by Dr. Boak, seconded by Dr. Ewart,

that the Report and Supplementary Report of the managing Editor be adopted. Carried.

REPORT OF THE COMMITTEE ON ECONOMICS

Mr. Chairman and Members of General Council:

83. The Committee has held meetings in October 1952 and April 1953 in Toronto. Each meeting lasted two days and was attended by the Chairmen of the Divisional Committees on Economics and Dr. T. C. Routley and Dr. A. D. Kelly.

84. At the last meeting of General Council authority was given the Executive Committee to appoint additional staff in the central office to co-ordinate the activities in medical economics. Every effort has been made by the Executive to fulfil this instruction. However, the person chosen for this appointment had other commitments which will not permit him to assume these duties until this autumn. As a result, your Chairman regrets that greater progress has not been made in some of the work of the Committee. Our secretariat are already overburdened but they have been most co-operative and helpful and deserve our special thanks.

85. During the year the Executive referred certain resolutions from Divisions to the Committee for opinion. The first of these was from the B.C. Division. It stated that complaints had been received from practising doctors, who are expected to provide ordinary medical services in their locality to the R.C.M.P. but find these men are sent to a D.V.A. hospital when any elective procedure is required, such as an operation. The information your Committee received from the government department concerned was that the R.C.M.P. had the same status as those in the Armed Forces and that part of the terms of service was that the men themselves would be provided, if possible, with medical care by the D.V.A. If not, the doctor of choice principle operates under the D.V.A. schedule of fees. The Committee felt

that it was most unlikely that any change could be brought about by negotiation on this matter and the Executive was so advised.

Adopted.

In reply to a question as to whether this decision not to negotiate was not a defeatist one, Dr. Richardson said that his Committee was of the opinion that the C.M.A. should not go to Government unless we have a case which is sound and which has a reasonable chance of a favourable decision.

86. The New Brunswick Division expressed dissatisfaction with the Army Benevolent Fund as operated in that province. There the practitioners had often submitted a reduced fee to the patient because of the circumstances and were later to discover that it had been turned over to the Army Benevolent Fund where it seemed to be again reduced about one-half. This appeared to hold true for other provinces. Correspondence with the administrators of the Fund was satisfactory in clearing this point. They have been using the D.V.A. schedule as a guide but are now considering using the Divisional fee schedules. The New Brunswick Division is now satisfied that administrative arrangements have been improved and that, under the circumstances, doctors are receiving reasonable remuneration.

Adopted.

87. An enquiry into the operation of The Sick Mariners' Fund was requested by the B.C. Division. The Legislation, originated in 1867, was designed to provide treatment for crews of ships in the foreign trade who might be left in Canada without means for the payment of medical care, often for prolonged periods of time. This matter is very involved—indeed it is international—but concerns only some of our Divisions. It is still under consideration by the Committee and it will be reported to the Divisions affected on its completion.

Several speakers stressed the weaknesses of the operation of the Sick Mariners' Fund. It is evident that it is functioning under ancient legislation and inadequate financing and that it requires a wholesale revision. Dr. Cameron assured the General Council that his Department is aware of the shortcomings of the Service and that improvements are currently being studied.

88. The B.C. Division requested the Committee to study the possibility of replacing the schedules of fees of the Department of Veterans' Affairs and of the Department of Indian Affairs by those of the Divisional schedules. The B.C. Division feels that there are different levels of economic costs across Canada and that it would be more equitable to work with Divisional schedules. The opinion of the other Divisions and of the government will have to be obtained before your Committee can make a recommendation on this matter and this will not likely be possible before the Annual Meeting.

Adopted.

While there was general agreement that the D.V.A. Schedule of Medical Fees requires upward revision, a resolution recommending that there be substituted the minimum Divisional fee schedules was defeated by a large majority. The recommendation of the Executive Committee was then discussed, and its substance incorporated into the following resolution:

Moved by Dr. Richardson, seconded by Dr. Mills,

WHEREAS the D.V.A. tariff entered into by agreement between the Department of Veterans' Affairs and the Canadian Medical Association has been in existence some seven years and whereas economic conditions in Canada have changed considerably, this General Council instruct the Executive Committee to appoint a committee to reconsider with the Department of Veterans' Affairs the whole

question of a schedule of fees for medical services.
Carried.

And further, it was

Moved by Dr. Werthenbach, seconded by Dr. Morgan, that General Council give authority to the Executive Committee to deal with the report of the D.V.A. negotiating committee as they see fit.

Carried.

The Committee was authorized to pursue a more equitable arrangement with the Indian Health Services.

89. The Provincial Health Survey Reports were referred to in the Report of this Committee at our last Annual Meeting. These Reports were not made public for all provinces until this spring. There has been little public reference to them as yet, but they will, no doubt, be used extensively by any bodies concerned in advocating modification of the health services. This Committee has requested each Division to study its own Provincial Survey Report and indicate the opinion of the Division on each recommendation in the Report. By this means we can obtain the opinion of the profession across Canada. The necessity of this information for our Association is obvious.

Adopted.

90. The Medical Care provided by governments for the Social Welfare and Pensioners' group in each province has been closely studied by your Committee. This group consists of all those who are receiving pensions from governments and includes Widows, Blind Pensioners, Old Age Pensioners, etc. The methods vary from province to province. Four provinces have had medical schemes operating for some years in which the provincial government makes a per capita grant to the profession and allows it to administer the service and to prorate the accounts as the funds permit. Each of these provinces has recently made an increase in the grant to meet the increased costs and the returns to the profession will vary from 55% to 80% of the provincial schedule of fees. It should be noted particularly that these governments have turned large sums of money over to the profession and permitted the doctors to administer them without interference. The cost of administration in one of these provinces was 4.4% last year. It must be further noted that this job has been done to the mutual satisfaction of both the government, the doctors and the recipients of public assistance. Surely this is proof that the profession is capable of the administration of plans involving medical care. A fifth province has started such a scheme this year and it is interesting to find that the profession there has handed over its cheque to a prepaid medical plan to administer the fund. This experiment may be valuable to us in the future.

91. In the other five provinces the medical care of this group varies greatly. Some of these people are provided for by municipal authority, some are cared for by private organizations but many have to depend on the charity of the doctor. In some localities this is an unfair burden for the profession. Your Committee is attempting to produce a plan with the best features of those now in operation so that, eventually, The Association will have a plan which it can recommend to all ten provinces. This study will require the attention of the incoming Committee.

Adopted.

92. The Statement of Policy made by General Council in 1949 has been examined by the Committee with the object of finding out whether or not it required revision. It was evident from the discussions that all Divisions are agreed on The Statement in general but that minor revisions could be made to clarify interpretation. On certain points there is a difference of opinion between the Divisions. There is a necessity for a discussion of this matter by General Council, but before this takes place, it might be time-saving to have the Divisional representatives deal with this problem in a

smaller group, so that this opinion could be consolidated for more mature consideration by the General Council.

93. Your Committee, therefore, recommends that the incoming Committee on Economics be instructed to study The Statement of Policy and make such recommendations to the Executive for its revision as they deem necessary.

Adopted.

94. The reports to insurance companies for sickness and casualty benefits that require to be completed by the busy practitioner are time consuming and a source of great annoyance. They are often so involved as to seem to be in the nature of a cross examination of the doctor. Most of the life insurance companies and some of the casualty companies do not merit this criticism. Some forms are requested long after the patient has finished treatment and the files in the office, and even the hospital, have to be searched in order to complete them. Many of the companies leave the patient responsible for the cost.

95. With the object of correcting this, a sub-committee was appointed. This committee has found it impossible to contact any central agency for all the companies, as many are non-tariff, subject only to their own control. The Committee has not given up and will continue its work. However, if progress cannot be made, this Association may have to prepare forms and send them to the companies with an ultimatum that these and these only will be filled out by the members of the C.M.A. The matter of the responsibility for the costs will also have to be considered. Your Committee will submit this problem to the Executive in the coming year.

Adopted.

96. The prepaid medical care plans have been the main concern of your Committee ever since the Association made its Statement of Policy in 1949, in which we restated the adoption of the principle of health insurance and proposed the establishment and/or extension of voluntary prepaid medical plans to cover Canada. There have been three general meetings of our Association since that time and that policy has not been altered in any way nor has anyone proposed a better method of meeting the public demand to spread the costs of medical care.

97. If we are to carry out our policy these Plans must be available in all parts of Canada to all citizens who wish to subscribe to them and must be of such a standard that they give adequate coverage to meet the demands of the public. Your Chairman is still not satisfied that we are meeting these requirements in all parts of Canada. In some provinces the medically sponsored Plans are giving all the coverage required by the subscriber; in fact they offer more than one type of coverage. Some Plans are permitting individuals to enrol. This, of course, requires a premium slightly higher than for group enrolment. These provinces, then, are doing their part to implement our policy. Unfortunately, other provinces have, so far, not been able to bring their Plans up to these standards. It has been noted that there is a tendency for some of the boards of management to be concerned only in making their Plans financially strong. The rate structure, exclusions and enrolment requirements tend to become very rigid. This means that only a select group in the community is covered. Some Plans are not interested unless there is employer contribution. The boards of management claim that the practitioners demand these factors by their fee schedules. Your Chairman submits that, if this is true, we are forgetting our objective in sponsoring these Plans.

Adopted.

98. The prepaid plans have been criticized by those who want state medicine and who hope they will not be a success. They point out that the premiums cannot be paid by all the people and that individuals cannot always enrol. The subscription rates are, admittedly, too costly

for everyone in the community. The medical indigent cannot come into the scheme and is still being looked after, gratis, by the doctor in the office, or home, or in the public wards of hospitals. This is where the State can come into the picture. Clause 6 (c) of The Statement of Policy reads—"the provision by the State of the Health Insurance Premium, in whole or in part, for those who are adjudged to be unable to provide these premiums for themselves." We believe that it is the duty of Government to work out the details of how this subsidy can be made and to whom it should apply.

Adopted.

99. For some years the Plans sponsored by the profession in the Provinces were local projects. After our Statement of Policy in 1949 it became apparent that these independent Plans should be linked up in some way. The history of this has been reported to General Council but might well be retold, in brief, for the benefit of new members.

100. In June 1951 these autonomous Plans were brought together under the auspices of The Canadian Medical Association through the Committee on Economics, and the Plans agreed to form an organization, which is now called The Trans-Canada Medical Plans. This is not an incorporated body. It is managed by a Commission, consisting of one representative from each of the member Plans and a representative from the C.M.A. Your Chairman has had the privilege of this appointment. In order to have full membership in the T.C.M.P. with a seat on the Commission, a prepaid plan must meet certain standards in the services offered to its subscribers. For those Plans which do not meet these standards there is the opportunity of an Associate membership.

101. The T.C.M.P. aims to bind the autonomous Plans together so that, eventually, their subscribers may move from one part of Canada to another with continuance of their insurance, and it will be possible for national employers to insure their employees across Canada under the same contract. There are certain mechanics of business required to do this which are easily worked out by the administrators employed by the Plans, but there have been delays because some of the Plans fear that their commitments to our profession might not be met as demanded by the fee schedules. The tardiness in reaching the object we have sought then is not due so much to the Plans and their management as to the practitioner members. The Plans cannot proceed faster until the practitioners are prepared to take the chance of a temporary sacrifice for a long-time gain. This means that we, as practitioners, must assume the responsibility, rather than the T.C.M.P., for not having a prepaid medical care system operating across Canada better than any that could be offered by a government agency.

A lengthy discussion took place on the objectives of prepaid medical care plans, individual vs. group coverage, broad benefits vs. restricted benefits, individual financial responsibility for part of each medical account and many facets of a complex situation. On the matter of co-operation with commercial insurance carriers, Dr. Richardson's statement was challenged by the expression of the viewpoint that such companies are competitors of medically sponsored plans and that doctors have no control over their policies and that the profession should oppose them. The consensus of the General Council was favourable to insurance carriers on the ground that their competition had stimulated our own plans to better methods and because they, too, were covering increasing numbers of the population with prepaid medical care. Dr. Forbes, Dr. Hunter and Dr. Lull were asked to speak on health insurance in their respective countries and each in turn summarized the situation. The debate was closed when Dr. Richardson moved the adoption of sections 99, 100 and 101. The resolution was carried.

102. This year the T.C.M.P. has held meetings under the Chairmanship of Dr. E. C. McCoy of Vancouver.

These meetings are particularly valuable to the administrators who are able to exchange information on statistics, actuarial data and business systems. The new Plans learn from the more experienced. The medical representatives of the Plans have a similar opportunity and are gradually working towards a common contract among the Plans. A full-time Director, Mr. Howard Shillington, has been engaged and a central office has been set up. There are nine member Plans across Canada and other applications are pending. The subscriber membership of T.C.M.P. is over a million and during the past year these Plans paid out about fifteen and a half million dollars for medical accounts. From this, it must be realized that considerable organization is necessary. This Association was instrumental in bringing these autonomous Plans together in order that a prepaid medical care system might be established across Canada. We have a representative on the Commission. We must contribute our share of the costs. Your Committee, therefore, recommends that the Canadian Medical Association contribute the sum of \$2,000.00 to Trans-Canada Medical Plans for the year 1953 in order to assist that organization to carry out its objectives.

Dr. Richardson reported that at the meeting of T.C.M.P. just concluded in Winnipeg, the Quebec Hospital Services Association and the Blue Shield section of the Maritime Hospital Services Association had been admitted to full membership.

Certain members of General Council criticized the adequacy of the amount proposed for the C.M.A. contribution to T.C.M.P. Dr. Richardson said that the \$8,000 contributed last year had not all been expended but he indicated his willingness to recommend a contribution of \$4,000.

Moved by Dr. Mills, seconded by Dr. MacDermot,

that General Council does not approve of increasing the grant to T.C.M.P. for 1953 by \$2,000, but that the \$2,000 recommended by the Executive Committee be voted at this meeting, with an additional \$2,000 November 1st, 1953, provided that the financial position of the C.M.A. justifies such expenditures. *Carried.*

Adopted as amended.

103. At the last meeting of General Council it was reported that the Defence Medical Association had presented a resolution to the Federal Government asking that dependents of service men in the Armed Forces be covered by a national prepaid medical scheme. The T.C.M.P. was anxious to underwrite this very essential contract. At that time it was found that such a scheme, giving the amount of coverage envisaged by the resolution, could not be tendered for by the member plans in all the provinces. In some provinces no member agency underwriting a broad service contract was available. In these provinces there was no plan which offered medical care unless the subscriber was in hospital. In spite of these difficulties, the T.C.M.P. has worked out a scheme which will fulfil the conditions of the resolution. So far, no progress can be reported in these negotiations as apparently this has not been a propitious year for government interest in such matters.

Adopted.

104. Your Chairman has been a member of the Joint Study Committee on Financing Medical Care, an organization representative of the Canadian Life Insurance Officers' Association and the C.M.A. The conferences with these leaders in insurance affords the medical member stimulating contacts and access to actuarial data and studies of trends in medical care not otherwise available.

Adopted.

105. The Chairman of your Committee on Economics is a member of the Advisory Committee to the Department of National Health and Welfare. In the report of the Executive Committee, reference will be found to

the meeting with the Minister of National Health at which proposed changes in the National Health Grants were discussed. The consequences of certain new grants on the practice of medicine will be evident to members of the General Council and their implementation in the provinces will require the close attention of the Divisions.

As this matter was considered in the report of the Executive Committee, this section was adopted without debate.

106. At the meeting of General Council last year the Divisional Chairmen of the Committees on Economics were authorized to hold two meetings during the year. These meetings proved to be most valuable as a forum for the exchange of ideas on Economic matters. It is not possible to do this by correspondence. At this time it is necessary that each Division understands the problems confronting the profession across Canada. They are not always similar in each province but the negotiations of one province affect all the others. Many of the subjects of study were not completed this year and are not referred to in this report. They will require the attention of the incoming Committee.

107. The Committee, therefore, recommends that the Executive Committee be instructed to make budgetary provision to permit the payment of the expenses of each Divisional Chairman of the Committees on Economics, or an alternate, and the Nucleus Committee to attend two meetings and such other similar meetings as may be authorized by the Executive Committee.

All of which is respectfully submitted.

ROY W. RICHARDSON,

Chairman.

The viewpoint was expressed that although medical tariffs had been traditionally a matter for provincial decision, there were grounds for an attempt at correlating the schedules on a common basis. Several members of General Council stated their opinion that it would be quite impractical to envisage a nation-wide tariff and cited the difficulties attendant on the D.V.A. schedule. It was re-emphasized that a national tariff was not contemplated and it was

Moved by Dr. White, seconded by Dr. Shepley,

that the Executive Committee be requested to sponsor a meeting of the Chairmen of Divisional Tariff Committees and representatives of the Committee on Economics of the C.M.A., looking to the study of medical fees on a rational basis.

Carried.

It was duly moved, seconded and carried that the Report of the Committee on Economics, with its amendments and additions, be adopted.

REPORT OF THE NOMINATING COMMITTEE

The Nominating Committee reported that it had met at 5.15 p.m. on Monday, June 15th, 1953, with all members present. It being necessary to elect a Chairman, Dr. W. J. P. MacMillan had been elected. The following nominations were submitted:

1. For the Office of President-Elect—Dr. G. F. Strong, Vancouver.
2. For the Office of Chairman of General Council—Dr. N. H. Gosse, Halifax.
3. For the Office of Honorary Treasurer—Dr. E. S. Mills, Montreal.

Members of the Executive Committee:

British Columbia—Dr. J. A. Ganshorn, Vancouver; alternate—Dr. R. G. Large, Prince Rupert.

Alberta—Dr. R. M. Parsons, Red Deer; alternate—Dr. John Scott, Edmonton.

Saskatchewan—Dr. F. E. Werthenbach, Unity; alternate—Dr. H. G. Young, Moose Jaw.

Manitoba—Dr. R. W. Richardson, Winnipeg; alternate—Dr. D. L. Scott, Winnipeg.

Ontario—Dr. H. T. Ewart, Hamilton; Dr. R. H. Malyon,

Toronto; Dr. R. M. Mitchell, Sudbury; alternate—Dr. M. C. Harvey, Kitchener.
Quebec—Dr. J. R. Lemieux, Quebec; Dr. W. deM. Scriver, Montreal; Dr. R. Vance Ward, Montreal; alternate—Dr. Arthur Powers, Hull.
New Brunswick—Dr. C. L. Gass, Sackville; alternate—Dr. J. H. M. Rice, Campbellton.
Nova Scotia—Dr. M. G. Tompkins, Sr., Dominion; alternate—Dr. J. W. Reid, Halifax.
Prince Edward Island—Dr. W. J. P. MacMillan, Charlottetown; alternate—Dr. J. A. McMillan, Charlottetown.
Newfoundland—Dr. J. A. Walsh, Manuels; alternate—Dr. J. A. McNamara, St. John's.

Elections:

On receiving the recommendations of the Nominating Committee, the Chairman called for nominations from the floor of General Council for each position in turn. No further nominations being made, the General Secretary was instructed to cast a ballot for the election of the gentlemen named. They were declared to be constitutionally elected.

Amid acclamation General Council heard briefly from the newly elected Officers, Dr. G. F. Strong, President-Elect, Dr. Norman H. Gosse, Chairman of General Council and Dr. E. S. Mills, Honorary Treasurer.

REPORT OF THE COMMITTEE ON NUTRITION

Mr. Chairman and Members of General Council:

108. During the past year, my Committee has dealt with a number of requests for information on relatively minor matters. Apart from the performance of this routine duty, the Committee has been chiefly preoccupied with the problem of the fluoridation of communal water supplies for the partial prevention of tooth decay. Our work along this line was initiated by receipt of a request from the Deputy General Secretary for a statement on the fluoridation of water, with special reference to avoidance of hazards. Two actions have been taken. First, at the suggestion of my Committee, a joint committee of the Canadian Dental and Canadian Medical Associations was formed to prepare a statement addressed to both professional and lay groups. The medical members of the joint committee came from the Committee on Nutrition. This joint committee has completed its task. Its statement, Appendix A, was released in January 1953 and has received wide publicity. Our second action has been the preparation of a memorandum on the avoidance of hazards. This was written by an Ad Hoc Subcommittee of the Committee on Nutrition and is addressed primarily to the medical profession. This memorandum is attached as Appendix B to my Report.

109. During 1953 the enrichment of flour and bread has been undertaken in Canada on a large scale. Enrichment, as defined in the Food and Drug Regulations, consists of the addition to white flour of thiamine, riboflavin, niacin and iron. (Inclusion of added calcium in the form of calcium carbonate or edible bone meal is optional). This enrichment should be regarded as aimed at the restoration of nutrient elements lost in milling. Use of enriched flour and bread, in place of other types of flour and bread, can increase the intake of only a few nutrients of the total of 40 to 50 required for the maintenance of health. Therefore a wise choice of other foods will still be needed. Where for economic or other reasons, intakes of a variety of foods are restricted while flour and bread remain readily available, use of enriched flour and bread, in place of other types of flour and bread, can confer important nutritional benefits. On this basis, your Chairman believes that the Canadian Medical Association would be justified in endorsing the current Canadian program of enrichment of flour and bread.

All of which is respectfully submitted.

E. H. BENSLEY,
Chairman.

APPENDIX A

REPORT OF A JOINT COMMITTEE OF THE CANADIAN DENTAL ASSOCIATION AND THE CANADIAN MEDICAL ASSOCIATION ON THE FLUORIDATION OF COMMUNAL WATER SUPPLIES FOR THE PARTIAL PREVENTION OF TOOTH DECAY

110. In response to many requests for information the following statement dealing with the public health procedure of fluoridation of communal water supplies has been prepared by a joint committee of the Canadian Dental Association and Canadian Medical Association.

What is Fluoridation?

111. The word "fluoridation", as here used, means the addition of a fluoride compound to water. Some water supplies are naturally fluoridated from the soil and rock through which they pass. Since 1945 many communities have artificially raised the fluoride content of their water supply to about one part per million (p.p.m.) by the addition of a fluoride compound. This is a level at which optimal dental benefits can be expected, and at which no detrimental effects have been demonstrated.

What Can Fluoridation Accomplish?

112. It has been found that children residing in communities with a water supply brought in 1945 to 1 p.p.m. of fluoride have considerably less decay in their teeth than children whose water supply is practically free of fluoride. While it is known that the protection from caries conferred by naturally fluoridated waters carries over into adult years, sufficient time has not yet elapsed in connection with artificially fluoridated waters to state definitely the extent of adult protection.

What Does Fluoridation Cost?

113. Fluoridation is accomplished by means of a mechanical feeding device, usually automatic, operating in conjunction with the regular waterworks equipment. Accurately measured quantities of some fluoride are mixed into the water supply, under the supervision of qualified waterworks staff.

Cost of equipment, of fluorides, and the operating costs vary from place to place, and from time to time. It is suggested that estimates be obtained through the local waterworks engineer or from supplying firms.

What Hazard is Involved?

114. None of the evidence reported to date indicates any ill effects when the concentration of fluoride in water is about 1 to 1.2 p.p.m. From naturally fluoridated areas it has been found that at about 1.5 p.p.m. some children develop teeth with mild mottling or mild fluorosis, commonly detectable only by experienced observers.

Under most circumstances, the greater part of the fluoride intake comes from drinking water and relatively small amounts from other sources such as food. But this is not always true. Some foods contain considerable quantities of fluoride. Fluoride intake may be increased by the use of materials to which fluoride has been added such as tablets, lozenges, dentifrices or chewing gum. Exposure to fluorides may occur not only within certain industries but also in their neighbourhood. In planning the fluoridation of a communal water supply, consideration must be given to sources of fluoride other than water, and steps must be taken to ensure that the fluoride intake from such sources is not excessive.

Since there are many unanswered questions involved in fluoridation of water supplies, investigations are continuing in both the dental and the medical fields.

How to Go About It

115. Communities considering water fluoridation should, as a first step, discuss the subject with the local dental, medical and waterworks authorities. There are several important matters of planning to be settled for each community individually. Among these matters is a

scientifically reliable basis for judging the effects of the program in the reports that are regular responsibilities of community health groups.

♠ ♠ ♠

116. List of Joint Committee Members:

- Dr. J. B. Macdonald, Faculty of Dentistry, University of Toronto, Toronto—Chairman.
- Dr. E. H. Bensley, Montreal General Hospital, Montreal—Vice-Chairman.
- Dr. H. K. Brown, Dental Health Division, Department of National Health and Welfare, Ottawa.
- Dr. Malcolm Brown, Kingston General Hospital, Kingston.
- Dr. A. L. Chute, Hospital for Sick Children, University Avenue, Toronto.
- Dr. R. Grainger, Department of Public Health, Parliament Bldgs., Toronto.
- Dr. Gordon Nikiforuk, Faculty of Dentistry, University of Toronto, Toronto.
- Dr. L. B. Pett, Nutrition Division, Department of National Health and Welfare, Ottawa.

Note: Membership on this committee does not constitute an endorsement of the statement by the department or institution which the individual represents.

APPENDIX B

MEMORANDUM ON FLUORIDATION OF COMMUNAL WATER SUPPLIES FOR THE PARTIAL PREVENTION OF TOOTH DECAY—AVOIDANCE OF HAZARDS

117. In response to many requests from the medical profession for information, the following memorandum has been prepared by an Ad Hoc Subcommittee of the Committee on Nutrition of the Canadian Medical Association. Attention is drawn to the fact that this memorandum deals only with the avoidance of hazards. Dental benefits of fluoridation do not come within its terms of reference and are therefore not discussed.

118. Ingestion of fluorides can produce toxic effects. In its milder forms and under some circumstances, chronic fluoride poisoning is characterized by changes in the teeth known as "dental fluorosis" or "mottled enamel". Very slight "mottling" is harmless and often detectable only by careful examination. More marked "mottling" may be disfiguring and associated with a weak tooth structure. In severe forms of chronic fluoride poisoning, skeletal changes may occur. Blood changes and a variety of symptoms have also been described in association with exposure to considerable amounts of fluoride. If fluoridation of water is to be carried out, it must be done without incurring the risk of poisoning.

119. In most of the studies on the effects of fluoride in water, search for evidence of toxicity has been confined to examination of the teeth. It seems to be assumed that if dental fluorosis is absent or mild, then fluoride is not producing damage. This assumption may or may not be correct.

120. At least five factors must be considered in any evaluation of the possible toxicity of fluorides in drinking water.

1. *Age of the subject.*—Mottling is rare in the deciduous teeth of young children. It is therefore not a reliable guide to the presence or absence of toxicity in this age group. Similarly in older children and adults the appearance of the enamel is largely dependent on pre-adolescent intakes of fluorides and is not much influenced by exposures after the age of nine years. For many people, therefore, consideration must be given to possible toxic effects of fluoride on tissues that are not as obvious as the teeth.

2. *Duration.*—Over long periods of time even low concentrations of fluoride in water might be toxic to tissues other than dental structures. To date there is no evidence of such toxicity but further studies along this line are clearly needed.

3. *Total intake.*—The fluoride added to communal water supplies will not be consumed in equal amounts by all individuals. Fluoride intake depends on water intake. This must be taken into account in deciding on the amount of fluoride to be added. One part per million of fluoride—the amount commonly added to water supplies—provides 1 milligram of fluoride in each litre of water consumed. At least 1 mgm. of fluoride daily would likely be obtained from this source.

Under most circumstances, the greater part of the fluoride intake comes from water and relatively small amounts are derived from other sources. But this is not always true. Foods in an average diet have been estimated to provide 0.2 to 0.5 mgm. of fluoride per day, but some foods and beverages provide considerably more. Fluoride intake may be further increased by the use of materials such as tablets, lozenges, dentifrices or chewing gum, to which fluoride has been added. Exposure to fluorides may occur not only within certain industries, but also in their neighbourhood. Under these circumstances, chronic poisoning may occur in spite of low concentrations in drinking water.

4. *Nutritional factors.*—There is some evidence that more mottling occurs in malnourished groups, even at low fluoride concentrations. Presumably such a response might also apply to other tissues. This aspect of the problem requires study. The effect of calcium and other dietary constituents on fluoride absorption also merits further investigation.

5. *Form in which fluoride is ingested.*—There is evidence that toxicity may be influenced by the type of compound ingested. This requires further study. To date sodium fluoride is the only compound proven to confer dental benefits when added to water supplies. Other less toxic fluoride compounds should not be approved without evidence that their addition is of some benefit.

121. It seems clear that if artificial fluoridation of a communal water supply is to be undertaken, the entire program must be conducted under close engineering, dental and medical supervision. Steps must be taken to ensure that accurate control will be exercised at all times over the fluoride content of the water. Account must be taken of sources of fluoride other than water. Attention must be paid to the effects of fluoridation not only on teeth but also on general health. The possibility of toxic effects on structures other than teeth deserves consideration. Further studies are required of the factors influencing the toxicity of fluorides, such as increased absorption or diminished excretion.

122. It is recommended that the fluoridation of water supplies by a community be accompanied by scientific studies designed to provide information concerning the points raised in this memorandum.

E. H. BENSLEY,
Chairman.

MALCOLM BROWN,
L. B. PETT.

NOTE: Membership on the sub-committee does not constitute an endorsement of this memorandum by the department or institution with which the individual is connected.

Adopted.

REPORT OF THE SPECIAL COMMITTEE ON STANDARDIZATION AND APPROVAL OF HOSPITALS IN CANADA

Mr. Chairman and Members of General Council:

129. At the last Annual Meeting, General Council approved the establishment of a Canadian Committee on Hospital Accreditation to be composed of five representatives from the Canadian Medical Association, five representatives of the Canadian Hospital Council and two representatives of the Royal College of Physicians and Surgeons of Canada, and that it be understood that the representation from the Canadian Medical Association would include a representative of L'Association des Medecins de Langue Francaise du Canada, and that the representation from the Canadian Hospital Council would include a representative of the Catholic Hospital Council of Canada and that this Committee name its chairman from among its members.

130. The Executive Committee at its first meeting following the meeting of General Council, appointed the following to act as representatives on the Canadian Committee:

Dr. E. K. Lyon, Leamington,
Dr. D. A. Thompson, Bathurst,
Dr. A. M. Goodwin, Winnipeg,
Dr. Rocke Robertson, Vancouver,
Dr. Robertson later being replaced by Dr. N. W. Philpott of Montreal.

131. It was further decided—

1. That the Executive Committee establish the Committee on Hospital Accreditation and that it be composed of the four members named by the C.M.A. to the Canadian Committee with Dr. Lyon as chairman.
2. That Dr. Lyon be authorized to call the first meeting of the Canadian Committee on Accreditation of Hospitals.
3. That the travelling expenses of the four members of the Accreditation Committee be a responsibility of the C.M.A. outside of the \$10,000 voted to the Committee until the Canadian Committee on Accreditation is functioning.
4. That Dr. Lyon be requested to report to the Executive Committee and through it to General Council.
5. That the C.M.A. member of the Joint Commission be one of the members of the Canadian Committee on Accreditation of Hospitals.

132. Following the receipt of these directives from the Executive Committee, a meeting of the Canadian Committee on Hospital Accreditation was held in Toronto on July 30, 1952. At that meeting the following organizations were represented as follows:

C.M.A.

Dr. E. K. Lyon
Dr. D. A. Thompson
Dr. A. M. Goodwin
Dr. Rocke Robertson

L'Association des Medecins de Langue Francaise du Canada

Dr. E. Thibault

Canadian Hospital Council

Dr. O. C. Trainor
Dr. A. L. C. Gilday
Dr. Gilbert Turner
Dr. Douglas Piercey
Father Hector Bertrand

Royal College of Physicians and Surgeons of Canada

Dr. A. D. McLachlin
Dr. H. K. Detweiler

133. It was quickly evident that the Committee favoured the establishment of a purely Canadian organization for the inspection and accreditation of Hospitals, to operate independent of the Joint Commission on Accreditation of Hospitals. It was hoped that friendly relations might be maintained with that body but the consensus was that the Canadian program including inspection and the issuance of certification of accreditation, should be carried out by an autonomous agency. It was decided that this Canadian agency, composed of the organizations previously mentioned, would be known as the Canadian Commission on Hospital Accreditation.

134. Realizing that the costs involved in a program of hospital accreditation are beyond the resources of the constituent bodies of the Commission, it was decided to approach the Federal Government for funds.

135. It was decided that the chairmanship of the commission be a biennial appointment rotated among the constituent members. Dr. Lorne Gilday was appointed the first chairman and Dr. E. K. Lyon the vice-chairman.

136. During the next five months negotiations were carried on with the Honourable Paul Martin, Minister of National Health and Welfare with the object in view of obtaining Federal funds.

137. Although the Minister disclosed a favourable attitude towards the purposes of the Commission, it was his view that the project impinged on the interest of the province and that provincial contributions should also be sought. The matter was discussed with the Dominion Council of Health and the Deputy Ministers comprising that body were favourable to the principle of a hospital accreditation program but reluctant to commit their governments to any contribution.

138. A second meeting of the Canadian Commission was held in Toronto on November 21, 1952 and the representatives of the constituent organizations were requested to consult their principals with a view to obtaining endorsement of the decisions of the Commission to date. The essential features of these decisions being as follows:

- (a) The establishment of a purely Canadian inspection and accreditation program for Canadian Hospitals.
- (b) The freedom of the Commission to seek to finance its operations by obtaining Government financial support or failing this, to obtain funds by other means, possibly including public subscription.
- (c) A contribution based on \$2,500 per annum for each representative on the Commission (The C.M.A. contribution would be \$10,000 per annum.)
- (d) Autonomy of the Commission to elaborate by-laws for its operation and establish standards of accreditation.

139. It was learned immediately following this meeting that the Canadian Hospital Council found it necessary to consult the Provincial Hospital Associations before committing the Canadian Hospital Council to an annual contribution of \$10,000 per year to the Canadian Commission on Hospital Accreditation.

140. The representatives of the Royal College of Physicians and Surgeons of Canada expressed the reluctance of the Council of the College to the acceptance of public funds and indicated that participation might be only in the rôle of an observer. Considerable disappointment was expressed at the attitude and a resolution was passed requesting reconsideration and full support of the Commission by the Royal College.

141. At the November meeting of the Executive Committee of the Canadian Medical Association, a report of the activities of the special committee on Standardization and Approval of Hospitals was made and the Executive Committee concurred in the activities to date, reaffirmed its pledge of a contribution of \$10,000 and decided to continue its support of the Joint Commission on Accreditation of Hospitals.

142. Following the November meeting of the Canadian Commission on Hospital Accreditation, the Canadian Hospital Council consulted the Provincial Hospital Associations and although the majority of the Provincial Associations were in favour, the Council Executive did not feel they had a conclusive mandate. It was therefore decided to air the whole question at the Biennial Meeting in Ottawa on May 18, 1953.

143. A third meeting of the Canadian Commission on Hospital Accreditation was held on April 6, 1953 at which all the constituent bodies were represented except the Royal College of Physicians and Surgeons of Canada.

144. The Commission members held a meeting in the morning at which it was learned that the Honourable Minister of National Health and Welfare had declined to advance a Federal grant to the Canadian Commission on Hospital Accreditation. The alternative of seeking contributions from Provincial Governments was considered, but dismissed as too uncertain a method of financing.

145. After a thorough discussion by all representatives present, the following resolutions emerged.

1. That the Canadian Commission on Hospital Accreditation reaffirms the previous recommendation that an exclusively Canadian program of hospital accreditation is desirable.
2. That it is now recognized that the institution of such a program is not feasible at present, owing to inability to secure sufficient financing.
3. That it is therefore agreed that co-operation with the Joint Commission on Hospital Accreditation offers the best prospect for the operation of a hospital survey program in Canada.
4. That it is agreed the Canadian Hospital Council shall seek direct representation on the Joint Commission.
5. That the Canadian Commission recommend to the constituent organizations participation in the survey of Canadian Hospitals through the financing and employment of an additional inspector by the Canadian Commission on the same basis as those presently employed on behalf of the Joint Commission.
6. That it is recommended to the constituent organizations that the Canadian Commission on Hospital Accreditation continue to function on behalf of Canadian interests.

146. In the afternoon the Canadian Commission met with Dr. Gunderson and Dr. Crosby, chairman and secretary of the Joint Commission, and Judge Milton George, a Canadian commissioner representing the A.H.A. on the Joint Commission. The Canadian Commission was assured by Dr. Gunderson and Dr. Crosby of the complete support and co-operation of the Joint Commission in any Canadian effort to carry on a program of Hospital Accreditation. The hope was expressed that Canada would remain within the orbit of the Joint Commission in order that our two great countries might move forward together in the work of Hospital Accreditation.

147. As your Chairman, I would like to make one or two observations. It must be quite evident that a purely Canadian program has to be deferred. We are faced, therefore, with one of two alternatives, either neglect this most important project for the time being or join with our American neighbours by placing an additional surveyor in Canada under the auspices of the Joint Commission. This latter alternative carries with it a financial responsibility which must be financed by Canadian money. Your Chairman firmly believes that this work is so important to the medical profession, our public hospitals, our intern training and our postgraduate training and finally to the people of Canada that it must be carried out, even if it remains to the Canadian Medical Association to find the necessary finances. It is hoped by the time General Council meets in June, that positive financial commitments will have been made by the other

constituent organizations in the Canadian Commission on Hospital Accreditation.

All of which is respectfully submitted.

E. K. LYON,
Chairman.

Dr. Lyon added that at the Biennial Meeting of the Canadian Hospital Association, held in Ottawa May 18-21, the resolutions quoted at Paragraph 145 of his report had been accepted. It had been decided that the C.H.A. should be a participating and contributing member of the C.C.H.A. The attitude of L'Association des Médecins de Langue Française du Canada, in view of the proposal to co-operate with the Joint Commission, would not be decided until a September meeting. The official attitude of the Royal College was unknown. Dr. Sclater Lewis indicated that the decision not to seek government funds would probably result in the participation of the Royal College, although this could not be determined until the Annual Meeting in October. Several speakers took part in the discussion and made the following points: accreditation of hospitals should be national rather than provincial in scope; the general accreditation program should be closely linked with approval for internship.

Adopted.

REPORT OF THE C.M.A. REPRESENTATIVE ON THE JOINT COMMISSION ON ACCREDITATION OF HOSPITALS

148. On September 1, 1952, Dr. Edwin L. Crosby commenced his duties as Director of the Joint Commission with office at 660 Rush Street, Chicago, Illinois.

149. The first indoctrination course for field inspectors appointed by the constituent organizations was held in Chicago, November 17 to 26. Inspectors have been placed in the field by the American Medical Association, the American Hospital Association and the American College of Surgeons. The American College of Physicians is placing inspectors in the field early in the autumn of 1953. The Canadian Medical Association is therefore the only Constituent Organization not having an inspector in the field.

150. On December 6, 1952, a ceremony was held formally conveying to the Joint Commission the hospital standardization program formerly conducted by the American College of Surgeons. The Canadian Medical Association was represented on this occasion by Dr. E. K. Lyon and Dr. A. D. Kelly. Dr. Gunderson, the Chairman of the Joint Commission, following his acceptance of the program from the American College of Surgeons, had this to say: "This is a voluntary movement representing the best thinking and the best inspiration of five of the most powerful groups in the world dealing with health. We recognize what this will mean to the care of the sick and injured of two friendly nations, Canada and the United States."

151. "If our duties are discharged well, the benefits to mankind through our profession, through our hospitals and for our civilization are unreckonable."

152. The Board of Commission meetings in December 1952 and April 1953 have been attended by your representative and it is his view that the work of the Joint Commission has been soundly planned and well commenced. As evidence of this, it is possible to report that since January 1, 1953, the field representatives of the constituent organizations working under the auspices of the Joint Commission have surveyed 283 hospitals in the United States and Canada. The full time services of one field representative of the American Hospital Association are devoted to Canadian hospital surveys and the part time services of a field representative of the American College of Surgeons will be applied to those Canadian hospitals which operate a Cancer Clinic.

153. The proposal of the Canadian Commission on Hospital Accreditation that one additional field representative be provided, is acceptable to the Joint Commission and it is evident that in the training and super-

vision of this individual we can count on the full co-operation of the staff of the Joint Commission.

All of which is respectfully submitted.

E. K. LYON,
C.M.A. Representative,
Joint Commission on
Accreditation of Hospitals.
Adopted.

REPORT OF THE COMMITTEE ON PUBLIC RELATIONS

Mr. Chairman and Members of General Council:

154. This committee was formed in September 1952 and consists of the following members:

Dr. W. G. Bigelow (Chairman)
Dr. A. D. Kelly (Secretary)
Dr. W. R. Feasby
Dr. William Givens
Dr. Wallace Graham
Dr. R. A. Mustard
Dr. G. I. Sawyer
Dr. Earl C. Steele

155. A representative of Public and Industrial Relations was present at all meetings.

156. There were several new members on this committee and each was chosen because of his interest in this subject and special knowledge which he possessed in fields which may be related or helpful to work in public relations.

157. One important contribution by this year's public relations committee has been discussion, study and finally drafting, of recommendations for the future of public relations in the Canadian Medical Association. These recommendations are submitted in the concluding paragraphs of this report. For the sake of brevity the actual activities of the committee will be reported only in outline.

158. Four meetings were held during this six-month period and the following is an outline of activities and subjects under discussion.

PRESS AND POPULAR MAGAZINE

159.

1. *Annual Conference of Managing Editors of Canadian Daily Newspapers* held a meeting during the past summer where a panel consisting of Dr. Lennox Bell, Dr. R. W. Richardson and Dr. A. D. Kelly debated the current medical attitude towards newspaper publicity and the press. Dr. Kelly reported that it was evident from a very active discussion, that newspapers are very much interested in medical news and that a favourable attitude towards the profession can be cultivated if doctors co-operate. The effect of the restrictions of the Code of Ethics are regarded by many newspaper men as detrimental to press co-operation and generally anachronistic. It was felt that a mutual understanding had been furthered by this valuable contact.
2. *Forum on Medical Public Relations at the Annual Meeting in Banff.* A panel consisting of Dr. Norman Gosse, Dr. Elinor Black, Dr. I. A. McMillan, Dr. Gordon Johnston, Mr. Sidnev Katz (*Maclean's Magazine*), Mr. Kenneth McTaggart (*Globe and Mail*, Toronto), discussed a number of provocative questions put to them by the moderator, Dr. Kelly. A capacity and enthusiastic audience was evidence of interest in this subject.
3. *On Call.* This publication of the Public Relations Committee has been discontinued this year. A decision as to its future use was deferred.
4. *Maclean's Magazine—Article on Vitamin E.* The Secretary reported that on March 13 he had received the manuscript of an article on Vitamin

E. proposed for publication in *Maclean's*. An accompanying letter invited a 1,000 word comment from the C.M.A. The tone of the article was highly derogatory to the medical profession and several mis-statements of facts were evident. The matter was discussed with the Editor of *Maclean's*. The Public Relations Committee passed a motion to strongly urge the Executive Committee to authorize a comment for publication in *Maclean's Magazine* in relation to the Article on Vitamin E.

The Executive Committee agreed to this and suitable comment was written and submitted to *Maclean's Magazine* for future publication.

The article and comment were published in the June 15th issue of *Maclean's Magazine*, the material referred to had been examined by the members of General Council, and the action of the Executive Committee and the Committee on Public Relations was endorsed.

5. *Offer of the Globe and Mail.* The Secretary outlined an interview with the Managing Editor of the *Toronto Globe and Mail* in which it had been suggested that a series of medical articles be prepared for publication. The essentials of the offer were as follows:

- (a) The Canadian Medical Association should organize a series of approximately fifteen articles on clinical topics to be written by medical authorities and to be published in the *Globe and Mail* as a public service.
- (b) The articles are to be authenticated by carrying an announcement mentioning the Canadian Medical Association and are to carry the author's name and appointment.
- (c) The services of Mr. Kenneth McTaggart are to be available to authors to transpose scientific terminology into popular language. No changes will be made in manuscripts except those concurred in by the authors and the Association.
- (d) The articles will be made available to other newspapers for republication by negotiation with the *Globe and Mail*.

160. The Committee was attracted by this opportunity to promote better relations with press and public but recognized in this proposal the establishment of an Association policy of considerable importance. The ethical consideration of the publication of articles under the author's name, the protection afforded by an official venture of the Canadian Medical Association, the necessity of dealing with press under conditions agreeable to them, the desirability of distributing the authorship geographically across Canada, the necessity for a prompt decision in this instance, all these and other factors were debated at length.

161. The Committee moved:

"That the Committee on Public Relations recommends that the Canadian Medical Association accept the offer of the *Globe and Mail* to publish a series of approximately fifteen signed articles to be written by leading, competent medical authorities, and that the concurrence of the Executive Committee be sought by mail ballot."

162. The press do not look with favour on any delay on the part of the medical profession in accepting such an offer and the "mail ballot" although offering no opportunity for discussion had the advantage of maintaining favour with the press by giving them a ready answer.

163. The result of the ballot showed a substantial majority of the voting members to be favourable, a few favourable with qualifications and one opposed. The decision was deferred until the next meeting of the Executive committee. The Managing Editor of the *Globe and Mail* had been advised that the C.M.A. was unable to proceed with the proposed series at this time and he had agreed to postpone any action.

164. It was felt by the Committee on Public Relations that this illustrated very well one of the difficulties under which any such committee must work. It is apparently important to newspapers that the identity of the spokesmen for the medical profession be made known. We are impressed by the importance of the time factor in dealing with the press. It was observed with interest that in British Columbia doctor participants in their radio program are identified by name and that the authors of a newspaper series are to date anonymous.

165. The members of the P.R. Committee expressed their disappointment of this outcome and it was hoped that this may provide a basis of discussion of the General Council as to clearer terms of reference and authority in dealing with the press.

166. It may be pointed out that unless the official representatives of the profession sponsor authoritative articles, the press will undoubtedly obtain material from other sources which may be irresponsible and unqualified.

A general debate on the propriety of publishing signed articles in the press took place. It was pointed out that the media of public information desire the spokesmen for the profession to be identified in order that their views will be afforded the weight of authority and authenticity. Dr. Ferguson outlined the experience of the Public Relations Committee of the B.C. Division. In respect of their radio program "The Doctors' Viewpoint" medical speakers are fully identified. In the medical columns contributed to two newspapers, the material is editorial in character and the matter of identifying the writer has not arisen. He expressed the view that if newspapers required this we should not hesitate to comply. Speaking to the matter of an arrangement with one newspaper, he said that a statement from the profession should be given to all media simultaneously but in relation to a feature series, newspapers recognized and respected the enterprise of their rivals and did not resent the profession making such arrangements. Dr. Ferguson received permission of General Council to read the following report submitted by Dr. Gordon C. Johnston, Chairman, Public Relations Committee, B.C. Division.

Mr. Chairman and Members of General Council:

For a number of years we, on the Pacific Coast, have been dabbling with public relations. The incentive for this was presented from many sources. Numberless individuals and organizations for diverse purposes were commenting on and discussing matters of health. The initiative was passing into other hands and yet the time honoured medical profession remained silent and remote. It was a failure of adaptation. We lived in the bygone era and had lost touch. Our prestige and authority were slipping from us and were being picked up by those skilled in the art of politics and by the technical branches we had created. At first our efforts met with little success because we had no organized authoritative policy-making body behind us. There was no one for whom we were speaking and we had no adequate financial backing. After the Division assumed control of our professional affairs, these difficulties were corrected and our relations with the public easier to manage.

In the beginning our committee was small, but as our affairs prospered it was necessary to expand rapidly and make each member responsible for one phase of our activities, such as radio, columns in the press, the *Bulletin*, and so forth, and to appoint Associate members throughout the Province in order that we would not be misunderstood and also that we might keep contact with the profession at large. This turned out to be valuable since the wider the membership is, the more sympathy, understanding and support becomes available to the central committee. Furthermore, there is an abundance of new ideas and enthusiasm to carry on the work.

In addition to our regular members, our meetings were usually attended by our Executive Secretary, Dr.

Gordon Ferguson, our President, Dr. John Ganshorn, and the Chairman of the Economics Committee, Dr. Peter Lehmann. These ex-officio members were invaluable because of their sage advice and also because they act as an upper motor neurone to inhibit the over-aggressiveness of the committee and thereby protect the basic policies of the Division.

Any success we have had would not have been possible without the remarkable support we have received from our Board of Directors. When the committee required money it was given and as we progressed they interpreted the code of ethics for us. Now it is recognized to be perfectly correct for a doctor to be named on a radio program if he is speaking for the profession, or to sign an article in the daily press, or even for his picture to be inserted if he is acting on behalf of the Division. These privileges are essential to adequate press relations.

We have been asked what response we get from our radio program. The answer is that we do not know. Nevertheless, we feel that it is important to have such a program because it supplies us with a non-censored line of communication to the public at any time. Furthermore, it was followed by offers of free time from other stations throughout the province. Following the radio program we were given a free unedited column in the *Colonist* in Victoria and later in the *Vancouver Daily Province*. Beginning this month, the *Vancouver Daily Province* is sponsoring completely free of charge eight weekly medical forums in a large auditorium. These continuing successes we feel are at least partly due to the initial establishment of our radio broadcasts.

Probably the greatest single asset of our radio venture is our announcer, Mr. Dorwin Baird of Station CJOR. We were extremely fortunate in our choice because he is not only an announcer but has an intimate knowledge of drama and a wide experience in public relations. We give him our ideas and he constructs the program for our approval. He has attended all of our Public Relations meetings and has acquired an unbelievably intimate understanding of the doctors' viewpoint. His constant advice has been a great help and we wonder how we would have managed without him.

To sum up, Sir, we believe that the first premise of a Public Relations Committee is a dynamic, representative, responsible provincial medical organization. Given such an organization, its Public Relations Committee should be large and in close contact with the directors of the Division. Finally, if a radio program is adopted one should not employ merely a voice but rather a consultant with a voice.

GORDON C. JOHNSTON,
Chairman.
Public Relations Committee,
B.C. Division.

It was evident that the consensus of General Council was overwhelmingly in favour of the course of action advocated by the Committee on Public Relations and this was embodied in the following resolution:

Moved by Dr. Mooney, seconded by Dr. McCoy,
that General Council adopt the policy that when an official body of organized medicine finds it necessary to ask a doctor to make a statement for the public, and the requirements make it necessary that his name be attached to it, he be absolved from criticism in doing this. *Carried.*

RADIO AND TELEVISION

167. The Secretary has participated in a C.B.C. program "Points of View" speaking on the price of health and in a television program "Press Conference" in which the discussion mainly was related to health insurance.

168. The Canadian Life Insurances Association has invited the participation of the C.M.A. in the joint sponsorship in Canada of a series of dramatic radio programs which have been broadcast in the United States under the title "The Search that Never Ends". After

discussing an audition of sample copies, the Committee on Public Relations recommends to the Executive Committee that the C.M.A. participate in this series under the conditions mentioned.

Adopted.

LINCOLN COUNTY DEMONSTRATION

169. After over a year's negotiation and several visits of representatives of the Public Relations Committee to meet with members of the Lincoln County Society in St. Catharines, at a final meeting in March 1953, this Society re-affirmed its willingness to proceed with the plan as outlined by the Committee and decided to establish under its own auspices an emergency call answering service which was one technical stumbling block of the plan.

170. In August 1952, Mr. John Bradley of Public and Industrial Relations, had conducted a survey in depth of the current state of public opinion in the area, concerning doctors and medical care. It is proposed that this survey be repeated at suitable intervals following a trial period, in the hope that progressive improvement in public relations can be demonstrated. It is only by objective evidence of this sort that the real value of good public relations programs could be assessed. This project is considered an important experiment.

Adopted.

PRESS CODE

171. As authorized by the Committee, a recommendation for a study leading to the elaboration of a Medical-Press-Radio Code for Canada had gone forward to all Divisional Committees on Public Relations. Material to assist this study had been provided with a sample agenda for a press relations conference and a draft skeleton of a possible press code to meet Canadian needs.

OTHER TOPICS

172. It was recommended that the medical Code of Ethics be studied with a view to endorse any alterations which may facilitate medical press relations, and yet maintain the standard of our profession.

173. This Committee has been interested in the activity of the Public Relations Committee of the B.C. Division and of the Montreal Medico-Chirurgical Society, in their advanced relations with press and radio.

174. The Committee considered the damaging effect on the good name of the profession of such incidents as the recent conviction of certain doctors for fraud and false certification. The need for prompt disciplinary action to demonstrate publicly that the medical profession does not condone such dishonest practices, was pointed out.

175. The P.R. Committee feel that it is not enough to discipline these men through our Colleges, but that disciplinary action should be prompt and when the press appear determined to learn what has happened to these offenders that a reasonable statement be given to them.

176. A discussion and exchange of letters has been carried out regarding medical evidence and malpractice suits.

177. Public and professional plans for medical care insurance were discussed with emphasis on deceptive practices on the part of some Companies.

178. Dr. Kelly attended a medical public relations institute conducted by the American Medical Association in Chicago on September 4 and 5, 1952.

179. Upon request, reliable information in the 104 foreign language newspapers of Canada has been published, regarding medical and hospital care under the heading "The Canadian Scene". The secretaries of all divisions have written similar 1,000 word articles describing the conditions in their respective provinces.

Adopted.

THE FUTURE OF THE PUBLIC RELATIONS COMMITTEE A CONCEPT OF PUBLIC RELATIONS

180. This year's Public Relations Committee feels called upon to present to the General Council some rather important recommendations. For this reason we would first like to present our concept of the responsibilities of the Public Relations Committee. These are as follows:

1. To promote a greater recognition by the medical profession of our own deficiencies as seen through the eyes of the public.
2. To stimulate through the medical profession plans to correct these deficiencies in service and attitude.
3. To encourage and develop plans designed to enlighten the public regarding difficulties which the profession encounters in its attempt to supply satisfactory medical care.
4. To portray the favourable attitude of the medical profession to plans for health insurance and pre-paid medical care plans which will insure for the public adequate medical attention and for the profession adequate terms of service.
5. To seek a general improvement of the relationship between the medical profession and the press and radio.

181. It can be seen from this that our fundamental objective is not based on an attempt to forestall or modify legislation related to medical service, but rather to improve the standing of our profession so that our advice may be sought and our opinion respected by legislative bodies concerned with medical care security.

182. During the last four years a great deal of useful groundwork has been accomplished by your Committee under the able guidance of Dr. A. D. Kelly. Now, however, there would appear to be urgent need for concerted action in the field of P.R. on a Dominion-wide basis. To facilitate such action we propose the following:

AUTHORITY

183. It has become apparent that to work effectively this Committee requires more definite terms of reference from the General Council. The Committee also requires authority to allow press and radio releases of a reasonable and beneficial nature, written under the authority of the Canadian Medical Association. The press feel very strongly that certain of these releases should come under the name of the author.

RECOMMENDATIONS

184.

1. Definite terms of reference should be outlined by The Association based on present concepts of our responsibilities as outlined above.
2. The granting of a wider latitude and freedom of action to the Public Relations Committee to approve press and radio releases without referral to high authority.

Moved by Dr. Harvey, seconded by Dr. MacMillan,

that the General Council directs the Executive Committee to develop, enlarge and outline the terms of reference of the Committee on Public Relations and also to define the powers and freedom of action of this Committee. *Carried.*

INTER-PROVINCIAL CO-OPERATION

185. It has been reported that there are public relations committees formed in all Divisions of The Association. The B.C. group are very active and have called for assistance from the National Committee. Your Committee feels that closer co-ordination between these committees and the national committee is essential.

RECOMMENDATION

186. That provision be made for the financing of one meeting a year of representatives from the public rela-

tions committees from each of the provinces and the C.M.A. Committee.

Adopted.

FULL TIME PUBLIC RELATIONS COUNSEL

187. Up until the present time a great deal of the executive work in public relations of this Committee has been done by the Medical personnel. The part time public relations counsel has been primarily used for *advice*. It is proposed that this situation be reversed and that a suitable and energetic public relations counsel be hired who will implement the desires of the P.R. Committee and use the Public Relations Committee as a source of advice in his program. It is felt very strongly, that in order to obtain a man of the stature and experience that we feel is required to do this job, it would be necessary to be prepared to pay an adequate salary with expenses.

RECOMMENDATION

188. That approval be given to the engagement of a well qualified full time public relations officer.

FINANCES

189. In order to finance the activities recommended, it is estimated that an annual budget of \$25,000 would be required and the provision of this sum is recommended.

In discussion of the recommendations relative to the appointment of a full time public relations officer and to an increase in the budget of this Committee to an annual sum of \$25,000, it was pointed out that the financing of all committee activities must be related to each other and to the Association's income. This year the budget for Public Relations is fixed at \$10,000.

Moved by Dr. Mills, seconded by Dr. Morgan,

that the matter of the budgeting allotment for Public Relations be referred back to the Executive Committee for consideration of the advisability of leaving the sum at its current amount.

Carried.

CONCLUSION

190. It was the opinion of the Public Relations Committee that a constitution such as that outlined above, is necessary for an effective public relations program to be sustained. The Association is urged to consider any worthwhile program of public relations as of real importance.

All of which is respectfully submitted.

W. G. BIGELOW,
Chairman.

Moved by Dr. Ewart, seconded by Dr. Harvey,

that the report of the Committee on Public Relations, as amended, be adopted. *Carried.*

REPORT OF THE CENTRAL PROGRAM COMMITTEE

Mr. Chairman and Members of General Council:

191. The Central Program Committee met on four occasions between November 5, 1952, and January 19, 1953.

192. The recommendations of the local committee in Manitoba under the chairmanship of Dr. Thomas A. Lebbetter were the basis for arrangement of the program and the policy of limiting the sectional meetings to one afternoon was adopted so that the program was arranged as in previous years with Round Table Conferences, General Sessions, and the afternoon session divided into two sections (a) medicine and related fields, (b) surgery

and related fields, and subjects chosen which would be interesting to a practitioner.

193. The death of the President, Dr. Harold Orr, made it impossible to have the usual valedictory address and this was replaced with a scientific paper.

194. Suggestions were made to the Chairmen of the various panels with regard to choosing representatives on the panels from various parts of Canada rather than merely locally, and any changes in program that were made also followed the principle of giving wide representation both geographically and topically.

195. There was some discussion as to whether or not the Central Program Committee performed any useful function. It was suggested that it might procure for the local committee from the various teaching centres suggestions of papers from which the local committee could pick those which fitted in with their plan for the scientific meetings next year. It was never necessary to go contrary to the plan of the local committee, but because so many of the suggested speakers were unable or unwilling to accept the invitations the Central Program Committee had to fill in the vacancies.

196. If the local committee had suggestions from various centres for possible papers next year, they might take an even greater part in planning the program and one of the difficulties which they usually encounter of adequate geographical representation would not arise.

197. Once again the Central Program Committee felt very grateful to the local Scientific Committee for the plans they had suggested and any alterations were made in line with what was felt would be acceptable locally.

All of which is respectfully submitted.

IRWIN M. HILLIARD,
Chairman.
Adopted.

REPORT OF THE COMMITTEE ON AWARDS, LECTURES AND SCHOLARSHIPS

Mr. Chairman and Members of General Council:

198. The Committee on Awards, Lectures and Scholarships has consisted of the following members for the year 1952-53:

Nucleus Members—

Dr. Duncan Graham (Chairman)
Dr. D. Sclater Lewis
Dr. Wallace Wilson
Dr. George S. Young

Corresponding Members—

Dr. C. C. Ash
Dr. Lennox G. Bell
Dr. Carleton B. Peirce

199. Your Committee has recommended to the Executive of the Association that the Frederic Newton Gisborne Starr Medal be awarded to Dr. Charles F. Martin of Montreal.

200. Dr. George S. Young of Toronto has accepted our invitation to deliver the Eighth Osler Lecture at the Annual Meeting in Winnipeg.

201. In 1951 the Ontario Cancer Treatment and Research Foundation established the Gordon Richards Memorial Lectureship. The Lectureship was offered to and accepted by the Canadian Medical Association for its Annual Meeting in 1953. Dr. Douglas Quick of New York has accepted our invitation to deliver the Second Gordon Richards Memorial Lecture at the Annual Meeting in Winnipeg.

202. In a letter to the General Secretary of The Association, Dr. A. T. Bazin requested that steps be taken to perpetuate the significance and *raison d'être* of the Starr Award, and suggested that in the year in which a Starr Award is made information relating to the Award

should be published in the Journal and in the final printed program of the Annual Meeting.

203. Your Committee begs to recommend that when a Starr Award is made to a member of The Association the final printed program of that year and the Annual Meeting number of the Journal shall contain:

- (a) a condensed biography of the late Dr. F. N. G. Starr;
- (b) the story of the conception of the Award and the method by which it was made possible;
- (c) Roll of Honour—giving the names of recipients and the dates of their Awards.

204. In a review of the conditions set up in the deed of gift for the Starr Award your Committee felt that certain clauses required more clarification and specification. Changes proposed by your Committee have been discussed with Mrs. Starr, the donor of the Starr Medal, and have been approved by her. The revised deed of gift reads as follows:

THE FREDERIC NEWTON GISBORNE STARR
MEMORIAL AWARD

205. In honour of her husband Mrs. F. N. G. Starr gave the Canadian Medical Association a sum of money to provide a gold medal to be awarded from time to time to a Member of the Canadian Medical Association. The Deed of Gift sets up the following conditions for its award:

- A. The medal should represent the highest award which lies within the power of the Canadian Medical Association to bestow upon one of its members.
- B. Achievement shall be the prime requisite in determining the recipient of the Award.
- C. The recipient may have achieved distinction in one of the following ways:
 1. By making an outstanding contribution in the field of
 - (a) Science,
 - (b) The Fine Arts—sculpture, painting, drawing or music,
 - (c) Literature—non-medical.
 2. By achievement
 - (a) In serving humanity under conditions calling for courage or the endurance of hardship in the promotion of health or the saving of life;
 - (b) In advancing the humanitarian or cultural life of his community;
 - (c) In improving medical service in Canada.

Such achievement should be so outstanding as to serve as an inspiration and a challenge to the medical profession of Canada.

206. Your Committee recommend the adoption of the following Rules and Regulations Governing the Starr Award:

1. Nominations for the Starr Award may be made by a Member of The Association submitting a nomination in writing to the General Secretary of The Association at least six months before the next Annual Meeting.
2. Nominations for the Starr Award must be accompanied by a statement of the achievements of the nominee for the Award, upon which the Committee on Awards, Lectures and Scholarships is to judge his eligibility.
3. Nominations for the Starr Award received by the General Secretary of The Association shall be forwarded by him to the Chairman of the Committee on Awards, Lectures and Scholarships.
4. It shall be the duty of the Committee on Awards, Lectures and Scholarships to approve or disapprove of any nomination for the Starr Award after a careful assessment of the nominee's achievements. In their assessment of a nominee for the Starr Award in the field of Arts or Letters, the Committee shall be required to co-optate two leaders in the field of Arts or Letters. The decision of the Committee must be a unanimous one, and shall be final.

5. The Committee shall forward its decision on the Starr Award to the Executive of The Association at least three months before the next Annual Meeting of The Association.

207. Your Committee begs to recommend that the word "information" be substituted for the word "approval" in Sections 3 and 4 of the Regulations Governing the Osler Scholarships.

208. Your Committee begs to recommend that the Lectures under the jurisdiction of The Association be listed in the final printed program for the Annual Meeting, giving a brief statement of the origin and purpose of each Lecture with the names and dates of the Lecturers.

All of which is respectfully submitted.

DUNCAN GRAHAM,
Chairman.
Adopted.

REPORT OF THE COMMITTEE ON PUBLIC HEALTH

Mr. Chairman and Members of General Council:

209. Your Committee wishes to express regret for the loss of our President, the late Dr. Harold Orr. Dr. Orr had a deep interest in Public Health, and stated that he had plans for promoting that co-ordination between Public Health and other branches of Medicine which many of us have hoped might some day be evolved. These plans have been lost to us by his untimely death.

210. As no specific duties have been assigned this committee, our report consists of a summary of certain subjects which individual committee members deemed worthy of presentation, and who have been kind enough to submit this material by correspondence.

211. Narcotic addiction is a major problem in some of our larger cities, and a not inconsiderable one in many others. It is your committee's opinion that The Association should take any positive action possible to encourage research in the control and treatment of this formidable and still unsatisfactory medical problem.

212. Your committee voices approval of the study of fluoridation of communal water supplies by the joint committee of our Association and the Canadian Dental Association. The very considerable amount of evidence indicating the value of fluoridation in combating the overwhelming problem of dental caries, and the failure of careful research to show hazard in the procedure under properly controlled application warrants, we believe, the positive support of our Association. If this is generally agreed, then the Canadian Medical Association and the Canadian Dental Association have the duty of giving leadership to our communities by publicizing their opinion.

213. The need for low-cost housing has a profound bearing on the health and happiness of many citizens. It is believed that our Association might do a valuable public service by urging Federal, Provincial and Municipal governments to enlarge their present schemes for providing such housing.

214. Space for institutional care of mentally retarded children is, in many provinces, insufficient for even the very low grade defectives. We believe it would be a useful service if the C.M.A.J. would invite some of our confreres in psychiatry to outline a realistic plan which might be instituted by our municipalities for meeting this problem with their available health and educational facilities.

215. Pin worm infestation is more widespread in many communities than has been generally recognized. It is reported that the School of Hygiene, Toronto, expects to institute a research project in the hope that a more adequate treatment may be evolved for this common and irritating nuisance. The project warrants the approval and support of our Association.

216. Public health regulations in many provinces require instillation of silver nitrate in the eyes of the newborn. Instances of chronic conjunctivitis following this procedure warrant a search for a substitute which will control gonococcal infection but will cause less tissue reaction than silver nitrate.

217. Rabies has been identified in many wild and domestic animals in the Northwest Territories and across the northern areas of the four Western provinces. In Alberta, rabid animals have been found as far south as the International Boundary. Many citizens bitten by animals proven rabid have received rabies vaccine. To date no clinical human case has been reported, but with the vast reservoir of the infection which obviously maintains in the wild animal population, it is likely to be a permanent problem in these areas. Rabies vaccine itself not being without some hazard, we must attempt to teach our citizens to assist the physician in deciding its use by saving the biting dogs for observation.

218. Ringworm of the scalp creates, in its epidemic form, a very formidable problem. It is recommended that each province should require reporting of cases, exclusion from school, exclusion from barber-shops and hair-dressing establishments, and a complete epidemiological investigation.

219. It is recommended that the Canadian Medical Association undertake to promote the generalization in Canadian Medical Faculties' curricula of demonstration periods in preventive medicine techniques, especially in the subjects concerning maternal and child health.

220. It is suggested that the Canadian Medical Association encourage the establishment, at provincial or local levels, of survey and research committees on maternal and infant mortality; such committees being composed of representatives from medical practitioners, teaching and public health groups.

221. Finally, we would point out that a large proportion of Public Health procedures are essentially the practice of medicine. Physical examination, immunization, etc. might better be in the hands of the practitioner whose influence extends much further in the home than can that of any public institution. I am convinced that the Health Officers of Canada would be happy to confine their efforts to administration, publicity, and general organization of these health efforts, if the profession would undertake the job which is truly theirs. To accomplish this, two conditions must be met. First we must teach our medical students (and many graduates) to think in terms of the public health. Secondly, we must let our provincial governments know that a reasonable recompense to physicians for their time and effort in this direction can bring about a level of protection for our citizens that cannot be attained through any other medium. The basic ethics of the medical profession in Canada are sound and admirable; but I cannot help but think that on occasion, a timidity caused by undue fear of encroachment upon these ethics has led to a failure of our profession to provide public direction for the thinking citizen which might lead to improvement of the health and happiness of our people.

All of which is respectfully submitted.

G. M. LITTLE,
Chairman.

Moved by Dr. Lewis, seconded by Dr. Scriver,
that the report of the Committee on Public Health
be received. Carried.

REPORT OF THE COMMITTEE ON APPROVAL OF SCHOOLS FOR LABORATORY TECHNOLOGISTS

Mr. Chairman and Members of General Council:

222. Your Committee on Approval of Schools for Laboratory Technologists has consisted of the following

members for the Association year 1952-53:

Dr. W. L. Donohue, (Chairman)
Dr. W. J. Deadman,
Dr. Daniel Nicholson,
Dr. Morton E. Hall,
Dr. George Shanks,
Dr. Jacques Olivier,
Dr. D. F. Moore.

223. Fewer applications than usual have been handled by the Committee, but three hospital laboratories have been recognized for training leading to the General Certificate of the Canadian Society of Laboratory Technologists and one laboratory for training in the specialist Histology course. A total of 65 hospital laboratories are now approved for the training of technologists.

224. It was reported last year that concern was felt over the inability of training facilities in Canada to meet the demands for well qualified laboratory technologists and it cannot be stated that the situation is substantially improved.

225. Through the interest and energy of Miss Ileen Kemp, Executive Secretary of the Canadian Society of Laboratory Technologists, some progress has been made towards an examination of this problem which appears to be an essential step before remedial measures can be advocated. Acting with representatives of the Canadian Society of Pathologists and of this Committee, a proposal has been prepared for submission to a Foundation interested in health services with a view to obtaining financial support for a preliminary study of needs and facilities, to be followed by a national conference. It is the hope of all concerned that assistance will be forthcoming to permit a serious appraisal of the problem of providing adequate numbers of trained technical personnel to staff the clinical laboratories of the country.

All of which is respectfully submitted.

W. L. DONOHUE,
Chairman.
Adopted.

REPORT OF THE COMMITTEE ON APPROVAL OF HOSPITALS FOR INTERNSHIP

Mr. Chairman and Members of General Council:

226. Your Committee on the approval of hospitals for internship has consisted of the following members: Dr. J. G. Turner, Montreal, Dr. D. R. Easton, Edmonton, Dr. R. A. Seymour, Vancouver with the undersigned as chairman. Dr. D. F. W. Porter of Moncton resigned as a member of the committee during the year.

227. The Committee has considered the applications of five Canadian hospitals of which one was approved, one confirmed in its commended status and the remainder are still under review. In the majority of cases these represent hospitals which are just above the minimum requirements as to size, facilities and medical staff organization. They may not have previously employed an intern and although the presence of one or more house doctors would unquestionably aid in the operation of the hospital, your committee is faced with the difficult decision of determining their adequacy as institutions for postgraduate training.

228. The development of a comprehensive program of hospital accreditation may affect the present organization for the approval of hospitals for internship. There is considerable inter-relationship of the bases upon which accreditation or approval for various purposes is made. It would seem logical to believe that approval, for certain purposes at least, could be placed upon a sounder basis and there should result economy of effort if some of the agencies work in concert.

229. For instance, there is much in common—up to a point between approval for internship and approval for

residencies in specialties. It might be advantageous to have the field representatives of the accreditation program make a physical inspection of the hospitals desiring approval. Data could be collected, recommendations made and the final decision given by an appropriate committee of the association or body charged with that responsibility. In the case of approval for internship it has been necessary, in most instances, to rely upon the data submitted by the hospital concerned and upon the personal knowledge of the hospital on the part of committee members. Undoubtedly, an actual inspection of the hospital concerned and a conference with the medical staff and the administration would be of much advantage to all concerned. Whether or not such a possibility would develop will depend upon the final form of the accreditation program in Canada and the personnel available for this undertaking.

230. The time would now seem to have arrived when the basis upon which approval is made should be reviewed by the committee. When the program was originally conceived and the approval of hospitals in Canada taken over from the American Medical Association, which was then doing it for us, the basis of approval adopted was closely parallel to that of the American Medical Association. This was done in order to permit reciprocal recognition by each association of the hospitals approved by the other. This arrangement was—and still is—considered highly desirable because of the movement of medical graduates back and forth across the border and the increasing importance being placed upon the satisfactory completion of an approved internship. Some changes have been made in the basis of approval of both Associations since that time. It may well be that, with the natural developments in our concept of what constitutes desirable intern training, our basis of approval should be reviewed again.

All of which is respectfully submitted.

G. HARVEY AGNEW,
Chairman.

Adopted.

REPORT OF THE COMMITTEE ON PHARMACY

Mr. Chairman and Members of General Council:

231. At the Meeting of General Council in June, 1952, the following resolution was passed.

"That it be recommended to the Committee on Pharmacy that in cases of emergency a doctor may prescribe by telephone to a druggist the necessary amount of a narcotic drug to procure the relief of the patient's illness—within twelve hours the doctor must leave with the druggist a written prescription for the prescribed drug."

232. "The view was expressed by several members of the Executive Committee that this plan would be completely impractical.

233. "It was agreed that this resolution be forwarded to the Committee on Pharmacy for report back to this Committee."

234. The chairman of your committee has discussed the resolution with the Director and staff of the Narcotic Division, Ottawa. It seems clear that the Narcotic Division will not consent to any arrangement involving a retroactive or covering prescription for narcotic drugs. They point to recent experience with a similar provision for prescriptions required under the Food and Drugs Act. Many doctors failed to provide the prescription after the order was delivered, leaving the pharmacists in a very unpleasant predicament.

235. The Narcotic Division will, however, recommend an amendment of the Opium and Narcotic Drugs Act to permit the sale of preparations containing codeine on the verbal or telephoned order of a physician. Your

committee has assumed, we hope correctly, that General Council will endorse the proposal.

236. Regarding prescriptions under the Food and Drugs Act, which include the barbiturates and antibiotics, your committee has advised the Department of Health and Welfare that verbal or telephoned orders from physicians should be accepted in lieu of a written prescription provided the order is immediately recorded in writing by the pharmacist who receives it. The Canadian Pharmaceutical Association has made a similar recommendation and we have reason to believe that the regulations are being amended accordingly.

237. At the meeting in June it was also resolved—

"That the General Council concurs in the opinion expressed by the Committee on Pharmacy to the effect that Preparations of Pencillin in all dosage forms should be available only on prescription."

"The Executive Committee concurred. The resolution is to be forwarded to the Deputy Minister of National Health in Ottawa."

238. The Department of Health and Welfare has not acted on this recommendation.

All of which is respectfully submitted.

J. K. W. FERGUSON,
Chairman.

In the discussion of this report, Dr. Cameron stated that regulations under the recent amendments to the Food and Drugs Act had just been issued and telephoned or verbal orders for the barbiturates and the antibiotics may now be accepted provided that the pharmacist records the order immediately in writing. He urged doctors to indicate in such verbal orders whether or not the prescription might be repeated. He described the prohibition of advertising of low dosage penicillin lozenges which are still available for self-medication. Amendments to the Opium and Narcotic Drug Act are likely to be presented at the next session of Parliament.

Moved by Dr. Ewart, seconded by Dr. Malyon,
that the Report of the Committee on Pharmacy
be adopted. *Carried.*

REPORT OF THE COMMITTEE ON MEDICAL EDUCATION

Mr. Chairman and Members of General Council:

239. During the past year no requests have been received by the Committee on Education requiring an expression of opinion.

240. The report will, therefore, be limited to information of developments of vital concern to medical education.

THE MEETING OF THE ASSOCIATION OF CANADIAN MEDICAL COLLEGES

241. The Canadian Medical Association was represented by the Chairman of this Committee at the meeting of this Association held in Toronto on September 30 and October 1, 1952. The most significant development was the discussion with Dean F. Smiley, Secretary of the Association of American Medical Colleges, and Dr. Donald G. Anderson, Secretary of the Council on Medical Education of the American Medical Association concerning the re-establishment of a survey of the medical schools of Canada after a lapse of 16 years. The Association of Canadian Medical Colleges approved in principle the examination of Canadian medical schools by the American Associations in company with a representative of the Association of Canadian Medical Colleges. The final consent for a survey would be left to the individual schools.

THE FIRST WORLD CONFERENCE ON MEDICAL EDUCATION 242. The organization of the First World Conference on Medical Education is rapidly being formalized with Dr. T. C. Routley as the Chairman of the organizing committee and with Canadians represented on the program. The general themes of this Conference, to be held at British Medical Association House in London, England, August 24 to 29, 1953, will be:

- (a) Requirements for Entrance into Medical Studies and the Selection of Students.
- (b) The General Aims and Content of the Medical Curriculum.
- (c) Techniques and Teaching Methods in Medical Education.
- (d) Social Medicine—Its Concepts and Place in the Medical Curriculum.

All of which is respectfully submitted.

G. E. HOBBS,
Chairman.

Dr. John Scott explained the resumption of the inspection of Canadian Medical Schools by the A.M.A. and the A.A.M.C. on the grounds that such accreditation services were beyond the financial resources of the Association of Canadian Medical Colleges. He stated that by 1957 there would be twelve schools in Canada granting degrees in medicine and he hoped that they would all be accredited.

Moved by Dr. Ewart, seconded by Dr. Wiebe,
that the Report of the Committee on Medical Education be adopted. *Carried.*

REPORT OF THE COMMITTEE ON ETHICS AND CREDENTIALS

Mr. Chairman and Members of General Council:

243. Your Committee on Ethics composed of Drs. W. G. Cosbie, J. Z. Gillies, H. Gibson Hall, Gilbert Parker, V. F. Stock and N. S. Shenstone has met for consideration of change in the Code of Ethics of the Canadian Medical Association.

244. The Committee agrees fully in the first sentences of the present code, *viz.*, "A secret arrangement between two physicians whereby, unknown to the patient, one physician receives part of the fee paid to the other, is not consistent with the honour of the profession. Such a practice is dishonest and leads to trafficking in patients." It believes, however, that the remainder of the first paragraph qualifies this primary principle of practice to such an extent that it could be interpreted to permit the very condition (*viz.* fee-splitting) which the first sentences state as unethical. The same criticism can be made of the code prescribed by the Royal College and there is strong feeling among its members that the code is neither clear nor comprehensive enough.

248. In the judgment of your committee it would be unwise to change the Code at the present time greatly as it needs modification and strengthening. It would seem advisable to us that the codes of the Canadian Medical Association and the Royal College of Physicians and Surgeons of Canada should be identical. We suggest, therefore, that representatives of the committees of both associations meet, each with an independently prepared prospective code. A discussion based on these should produce a formula acceptable to both.

All of which is respectfully submitted.

NORMAN S. SHENSTONE,
Chairman.

In the discussion of this report, Dr. Lewis indicated his opinion that the Royal College of Physicians and Surgeons of Canada would be glad to confer with the C.M.A. to bring about uniformity in their respective

codes of ethics. Exception was taken to the language used by the Committee in stating its views on the problem of fee-splitting and it was

Moved by Dr. Shepley, seconded by Dr. White,
that Sections 245, 246 and 247 be deleted. *Carried.*

Dr. Lyon asked whether an invitation had been received from the American College of Surgeons to participate in a conference on unethical practices in medicine and surgery, and if so, what had been the outcome. The General Secretary replied that the Executive Committee had considered such an invitation but had decided to decline on the grounds that we were not yet prepared to discuss these matters with other organizations. A motion instructing the Executive Committee to accept the invitation was defeated but a subsequent motion requesting reconsideration of the matter was passed in the following form:

Moved by Dr. Lyon, seconded by Dr. Reardon,
that the matter of the invitation from the American College of Surgeons to attend a conference on medical ethics be re-opened. *Carried.*

And further, it was

Moved by Dr. Hall, seconded by Dr. Werthenbach,
that the Report of the Committee on Ethics and Credentials, as amended, be adopted. *Carried.*

REPORT OF THE COMMITTEE ON CANCER

Mr. Chairman and Members of General Council:

No matters requiring comment at this time have been referred to your Committee on Cancer during the year. The situation in regard to the diagnosis and treatment of cancer generally throughout Canada is changing somewhat from that indicated in our fairly detailed report last year. Federal-Provincial grants-in-aid have been continued. Although certain local patterns as to facilities have been altered, and in some areas have been marked by an epidemic of enthusiasm for certain physical means for treatment, the ultimate wisdom of such variations remains to be proven.

Research and professional training at higher levels continue to be fostered and supported by the National Cancer Institute of Canada and the Canadian Cancer Society. On behalf of your nucleus committee therefore, I may report progress.

All of which is respectfully submitted.

CARLETON B. PEIRCE,
Chairman.
Adopted.

REPORT OF THE COMMITTEE ON CONSTITUTION AND BY-LAWS

To introduce the report of the Committee on Constitution and By-laws, of which he is Chairman, Dr. Gosse requested Dr. W. J. P. MacMillan to preside at the meeting of General Council.

Mr. Chairman and Members of General Council:

249. The Nucleus of your Committee composed of the following members:

Dr. A. E. Blackett
Dr. R. O. Jones
Dr. A. D. MacLeod
Dr. A. L. Murphy
Dr. George Skinner
Dr. D. A. Thompson

with the undersigned as Chairman, is the same personnel as that which made up last year's Committee with the addition of another New Brunswick member—Dr. Skinner. The By-laws which are the result of its deliberations are attached hereto.

250. It will be remembered that while last year's Committee recommended widespread changes—many of which however were in arrangement—it felt itself unable to satisfactorily complete the By-laws without further clarification by Executive or Council of certain matters referred by them. Both those bodies having since made their contributions and time having added a considerable quota your committee now begs to submit the accompanying revision for your consideration and approval.

Dr. Gosse indicated that it was the original plan of his committee to advocate a Special Business Meeting of the members of the Association when changes in the By-laws are required. He was now convinced that discussion in General Council and presentation to the Annual General Meeting fulfilled all requirements and it was

Moved by Dr. Gosse, seconded by Dr. Mills,
that paragraphs 251 and 252 be deleted.

Carried.

253. Your Committee in the section on Affiliations has endeavoured to provide in general terms, that those of our children who have grown to have their own particular and varied aspirations and who because of them have felt it desirable to set up housekeeping for themselves, may be able to retain a firmer connection with the parent household and a more significant place in the body politic. While we may not in such association be able to assume the cohesion of a matriarchy there are features of that form of association which many of our specialist bodies feel we might do well to emulate. Part of the revision affecting affiliated bodies is in response to that feeling.

254. It will be noted in the same section that provision is made for effectively affiliating with other national medical groups as occasion may be realized. This can open to us avenues of communication and of co-operation now virtually closed, could make for action in concert for which no machinery now exists, and so could enhance in eminence the place of Canadian Medicine as a whole.

255. Your Committee believes that other changes made require no comment at this time as the need for them will be apparent.

All of which is respectfully submitted.

NORMAN H. GOSSE,
Chairman.

BY-LAWS CANADIAN MEDICAL ASSOCIATION RECOMMENDED REVISION

WHEREAS by act of the Parliament of Canada dated the nineteenth day of May, one thousand nine hundred and nine, The Canadian Medical Association is empowered to make by-laws and rules as it may deem necessary, and

WHEREAS it has been deemed desirable and expedient that the constitution and by-laws of the said Association be revised, now therefore, BE IT ENACTED that the Constitution and By-Laws be and the same are hereby repealed and the following substituted therefor:

BY-LAWS

(For the government and management of the business and affairs of The Canadian Medical Association.)

CHAPTER I

Title:

This Association shall be known as The Canadian Medical Association, and when the French language is used, it shall be known as "L'Association Medicale Canadienne".

CHAPTER II

Objects:

1. The promotion of health and the prevention of disease.
2. The improvement of medical services however rendered.
3. The maintenance of the integrity and honour of the medical profession.
4. The performance of such other lawful things as are incidental or conducive to the welfare of the public and of the medical and allied professions.

CHAPTER III

The Seal:

The seal which is now in the hands of the General Secretary shall be the seal of The Association.

CHAPTER IV

Ethics:

The Code of Ethics of The Association shall be such as may be adopted by The Association from time to time. A copy shall be supplied to each member of The Association on request.

CHAPTER V

Divisions:

Section 1.

A Provincial Medical Association (or the body representing organized medicine in a Province and enjoying all the rights and privileges of a medical association) may become a Division and enjoy all the rights and privileges of a Division in the following manner:

- a. By intimating to the Canadian Medical Association in writing that it desires to become a Division.
- b. By agreeing to amend where necessary, its Constitution and By-Laws to place them in harmony with the Constitution and By-Laws of this Association.
- c. By agreeing to collect from those of its members who desire to be members of The Canadian Medical Association such annual fee as may from time to time be set for membership and remit same to this Association.
- b. By agreeing to take such steps as seem proper to the Division to increase membership in The Association.

Section 2.

It shall then be known as The Canadian Medical Association (name of Province) Division, but if it choose may retain its pre-existing name as well.

CHAPTER VI

1. Membership and Discipline:

The Association shall be composed of ordinary members, members-at-large, senior, non-resident, and honorary members, and they shall be so designated, according to the way in which they qualify under the requirements for classification, which are as follows:

(a) Ordinary Members:

Every member in good standing in a Division shall be automatically an ordinary member of The Canadian Medical Association on payment of the annual fee as levied by the General Council.

(b) Members-at-Large:

Any graduate in medicine residing in Canada, or any teacher of the ancillary sciences in a school of medicine in Canada (not a graduate in medicine), who is not a member of a Division may be accepted as a member of The Canadian Medical Association provided that, with his application, a certificate of approval from the executive body of the Division in the Province in which the applicant resides be furnished to the General Secretary. In the case of an applicant residing in Canada in a territory beyond the jurisdiction of a Division, the application must be endorsed by two members of The Canadian Medical Association. Such members shall be designated "Members-at-Large" and shall pay the annual fee as levied by the General Council.

This section shall be construed so as to include permanent officers of the Armed Forces, who may be accepted as members without becoming members of a Division.

(c) *Senior Members:*

Any member of The Association in good standing for the immediately preceding ten year period who has attained the age of seventy years is eligible to be nominated for senior membership by an ordinary member of The Association. He shall be approved by the Executive of the Division in which he practised, but he may be elected only by the unanimous approval of the members of the Executive Committee in session present and voting. Not more than eleven such senior members may be elected in any one year. Senior members shall enjoy all the rights and privileges of The Association but shall not be required to pay any annual fee.

(d) *Non-Resident Members:*

Non-resident members may be elected by the Executive Committee from regularly qualified practitioners residing outside of Canada. They shall be required to pay an annual fee as levied by the General Council.

(e) *Honorary Members:*

Honorary members may be nominated by any member of The Association and shall be elected only by a unanimous vote of the Executive Committee or the General Council in session present and voting. Not more than five honorary members may be elected in any one year and at no time shall the list of living honorary members exceed twenty-five. Honorary members shall enjoy all the rights and privileges of The Association but shall not be required to pay any annual fee.

2. *Discipline of Members:*

Any member who fails to conform to these By-Laws and/or the Code of Ethics of this Association shall be liable to censure, suspension or expulsion.

- (a) Any member whose annual fee is payable either directly to The Canadian Medical Association or through one of its provincial divisions, and whose annual fee is not paid on or before the 31st day of March of the current year, may, without prejudice to his liability to The Association, be suspended from all privileges of membership.
- (b) Any member of The Association who after due enquiry by the Executive Committee shall be judged to have been guilty of disgraceful conduct in any professional respect shall be liable to censure, suspension or expulsion from membership in The Association by resolution of the Executive Committee confirmed by a three-fourths vote at the next Annual Meeting of the General Council.
- (c) Should any member of The Association be convicted of any criminal offence, or have his name removed from the register of the Medical Council of Canada, or of the licensing body of any Province of Canada, because of felonious or criminal act, or disgraceful conduct in any professional respect, the Executive Committee shall, by resolution, confirmed at the next ensuing annual meeting of the General Council, by a three-fourths vote of those present, censure or suspend or expel such persons from membership in The Association.
- (d) Any member suspended or expelled by resolution as aforesaid, shall thereby forfeit all his rights and privileges as a member of The Association.
- (e) Any member suspended or expelled by resolution as aforesaid, shall, subject to conditions imposed by the Executive Committee, be restored to membership upon resolution of the Executive Committee confirmed at the next ensuing annual meeting of the General Council.
- (f) By accepting membership under the terms of the By-Laws and Code of Ethics and becoming a member of The Association, every member attorns to

these By-Laws, and agrees to such right of discipline as aforesaid, and thereby specifically waives any right or claim to damages in the event of his being so disciplined.

(g) *Resignation from Membership:*

Membership in The Association shall automatically cease only on suspension, expulsion or death. Resignation may be effected (1) in the case of a member of a Division by giving notice to the Secretary of the Division not less than one month before the beginning of the calendar year; (2) in the case of a member at large by giving notice directly to the General Secretary of The Canadian Medical Association one month before the next annual fee is due.

(h) *Registration at Meetings:*

No member shall take part in the proceedings of The Canadian Medical Association or in the proceedings of any of the Sections thereof or attend any part of the meeting until he has properly registered. Only members and invited guests are eligible to register and attend an annual meeting.

CHAPTER VII

Affiliated Societies:

Section 1.

Any nationally or internationally organized medical, scientific, or sociological body may, subject to the approval of the General Council, become affiliated with The Canadian Medical Association. Affiliation shall be of two classes:

- (a) Canadian Medical Specialist Societies whose members are also members of the Canadian Medical Association or whose membership is composed of members of the Canadian Medical Association and of some other national medical organization or organizations.

These shall, on application to and on approval by the Executive Committee or by the General Council, be accepted as an affiliated body and shall be entitled to one seat on General Council for each society so affiliated. For the purpose of arranging sectional meetings at Annual meetings of the Canadian Medical Association and for such other purposes as the Executive Committee may deem expedient, any such specialist organization in the absence of a corresponding section properly organized and functioning and at the request of the Executive Committee or its properly designated agent may act for and on behalf of the Canadian Medical Association in the performance of those offices and duties which a properly constituted section might otherwise be expected to perform.

- (b) Other National or International Associations.

Other national or international bodies as above may become affiliated with the Canadian Medical Association. In particular cases, in which in the judgment of the Council or of the Executive Committee a very close liaison between any such body and the Canadian Medical Association would appear to be likely to advance the interest of Medicine in Canada, then the Executive or General Council may enter into such liaison arrangements as may be found to be mutually agreeable even though this may involve the granting of membership in Council on an exchange basis.

Section 2.

Any affiliation made under this chapter shall mean that a friendly relationship exists between the two bodies. There shall be no obligation on the part of either party to the affiliation, by virtue of such affiliation, to sponsor policies or movements initiated or advanced by or on behalf of the other.

Section 3.

Affiliation shall be on a year to year basis and shall continue without interruption unless either party to the affiliation shall give notice to the other in writing of its intention to withdraw from the affiliation.

Section 4.

Membership in Council shall not generally be a condition of affiliation under Section 1 Sub-section (b) of this chapter but may be given under special circumstances as therein suggested, and as provided in Chapter XIII Section 1 (k).

CHAPTER VIII

Guests and Visitors:

Section 1. Visitors from Outside of Canada:

Medical practitioners and other men of science residing outside of Canada may attend the annual meeting as guests of the President or of the General Council, or as visitors when vouched for by the General Secretary. They shall register with the General Secretary, without payment of fee and may, after proper introduction, be allowed to participate in discussions.

Section 2. Medical Students Attending Meetings:

Any hospital intern or medical student, when properly vouched for, may be admitted as a guest to the scientific meetings, but shall not be allowed to take part in any of the proceedings unless specially invited by the Committee on Program to present a communication.

Section 3. Delegates from Affiliated Societies at Scientific Meetings:

Two delegates from each affiliated society, one only of whom is required to be a member of this Association, may attend the scientific meetings.

Section 4. Delegates from Affiliated Societies at Meetings of the General Council:

Two delegates from any affiliated society, provided one delegate is a member of this Association, may be invited by the Executive Committee to attend meetings of the General Council. They may, at the request of the Chairman, take part in the deliberations but shall have no voting power.

CHAPTER IX

Meetings:

Section 1. Time and Place of Meetings:

The time and place of meetings shall be decided by the General Council or the Executive Committee, and shall be announced as early as possible.

Section 2. Annual Meetings:

When the Canadian Medical Association meets in a Province, the meeting of the Division of that Province for that year may be for business purposes only. The local arrangements shall be under the direction of the Executive Committee of the Canadian Medical Association, which may enlist the assistance of the Division or one of its component Societies. The Canadian Medical Association assumes full control of the proceedings of the meeting and of all financial obligations save entertainment.

Section 3. Program for Annual Meetings:

The program of the meeting may consist of business sessions, general and sectional sessions, and any other sessions which may be decided upon by the Executive Committee.

Section 4. Presiding Officer:

The President or some other person designated by him shall preside at all general meetings.

Section 5. Rules of Order:

The Rules of Order which govern the proceedings of the House of Commons in Canada shall be the guide for conducting all meetings of The Association.

CHAPTER X

Sections:

Section 1. Organization and Functions:

Members of the Canadian Medical Association with the consent and approval of the General Council, may organize a Section for the purpose of: (a) interesting

The Canadian Medical Association in a particular field of medicine; (b) voicing considered expressions of opinion for the benefit of The Canadian Medical Association on matters which concern the Section; and (c) arranging for meetings in co-operation with the Central Program Committee.

Section 2. Recognition of Existing Sections:

The following Sections are recognized as existing on June 9, 1952:

Anæsthesia	Ophthalmology
Armed Forces Medical Section	Otolaryngology
Dermatology	Pædiatrics
General Practice	Preventive Medicine
Historical Medicine	Psychiatry
Industrial Medicine	Radiology
Medicine	Surgery
Obstetrics and Gynæcology	Urology

Section 3. New Sections:

New Sections may be organized on the application in writing of not less than twenty-five members of The Canadian Medical Association setting forth the subject or subjects proposed for study and discussion by the Section and the proposed name of the Section. Such application shall be filed with the General Secretary of The Canadian Medical Association and submitted by him to the next meeting of the Executive Committee after the application is received, and the Executive Committee shall transmit the application to the next meeting of the General Council with its recommendations in respect of the application, and the General Council may grant the application in the form made or with such variations therein as the applicants may approve, or may refuse the application or postpone consideration thereof.

Section 4. Meetings:

The view of our membership being that the unity of The Canadian Medical Association, in all its Sections and Divisions, is essential to the realization of its objectives, it follows that the interests of any Section must rank below those of The Association as a whole and must be required, if necessary, to give place to them in the national interest. Subject to this and by arrangement with the Executive Committee, meetings of Sections shall be held during the time of and in conjunction with the Annual Meeting of The Canadian Medical Association. Other meetings of a Section may be called by the Chairman of the Section with the approval of the Executive Committee. Notice of a meeting of a Section, other than a meeting to be held during the Annual Meeting, shall be given by publication in an issue of the Journal of The Canadian Medical Association published not less than one month prior to the meeting.

Section 5. Officers:

There shall be a Chairman and Secretary of the Section elected at a meeting thereof held during an Annual Meeting of The Canadian Medical Association, and they shall hold office from the close of that meeting until the close of the next meeting of the Section held during an Annual Meeting. In the event of either of the said officers not being elected as aforesaid or resigning or dying or becoming incapacitated during his term of office, the Executive Committee may appoint a member of The Canadian Medical Association to fill the office until the next election.

Section 6. Duties of The Chairman:

The Chairman, or someone designated by him, shall preside at all meetings of the Section, and if he be absent and no one has been designated by him to preside, the meeting of the Section shall elect a Chairman.

Section 7. Duties of The Secretary:

The Secretary of the Section shall keep a correct record of its transactions in duplicate and one copy shall be handed to the General Secretary of The Canadian Medical Association for insertion in the Minute Book

provided for the purpose. The other copy shall be retained by the Secretary of the Section for the use of the Section and its officers.

Section 8. Program at Annual Meetings:

It shall be the duty of a Section through its Chairman and Secretary to co-operate with the Central Program Committee, to arrange for the meeting of the Section to be held during the Annual Meeting.

Section 9. Dissolution of Sections:

In the event of it appearing from the small number of registrations in a Section or the failure to hold meetings thereof or on any other ground, that interest in its subject or subjects is lacking, the General Council, on recommendation of the Executive Committee may dissolve the Section, and it shall not be revived except upon a new application for recognition.

Section 10. Authority of the Section:

No Section or meeting of a Section and no officer or officers of a Section shall have the right to speak for The Canadian Medical Association as such, but any resolution passed at a meeting of a Section may, if the meeting so decides, be submitted to the General Council or the Executive Committee of The Canadian Medical Association for consideration and action, and it shall be the duty of the General Council or the Executive Committee as the case may be to receive such resolution and consider the same and take such action as it may decide in respect thereof at its first meeting after the receipt of such resolution.

CHAPTER XI

Officers, Officials and Executive Committee:

Section 1. Officers and Officials:

The Officers and Officials of The Association shall be:

- (a) The Patron.
- (b) The Elective Officers, who shall be a President, a President-Elect, an Immediate Past President, a Chairman of the General Council and an Honorary Treasurer.
- (c) The appointive Officials who may be a General Secretary and a Deputy General Secretary, an Editor, a Managing Editor and such other Officials as may be appointed by the Executive Committee. These appointive Officials shall have no vote at any meetings of The Association nor of any of its Committees.

Section 2. Appointment of Nominating Committee:

- (a) The General Council at its first session at the time of the Annual Meeting shall elect by ballot from among its members present a Nominating Committee of TEN, not including the President who shall be ex officio a member of the Committee and the Chairman thereof.
- (b) Each Division in The Association is entitled to appoint from amongst its delegates to the General Council one member to the Nominating Committee. Provided this nomination be made in writing to the General Secretary prior to the Annual Meeting and the delegate so nominated be present, he shall be declared elected to membership on the nominating Committee.
- (c) Upon completion of the election of Divisional Representatives as provided for in clause (b) of this section, any vacancies which remain shall be filled by nominations from the floor. Election shall be by majority vote, on a single ballot and the Chairman of the General Council shall if necessary give the casting vote.

Section 3. Duties and Powers of the Nominating Committee:

The Nominating Committee shall meet on the day of its election and submit to a later session of the General Council:

1. Nomination of the following officers of The Associa-

tion: A President-Elect, a Chairman of the General Council and an Honorary Treasurer.

2. Nomination of an Executive Committee which, in addition to those who are members ex officio (see Chapter XIII, Section 6) shall consist of fourteen members drawn from the General Council and geographically distributed as follows: three shall be resident in each Province in which an office of the Association is located and one shall be resident in each of the other provinces.
3. Nomination from members of the General Council of ten alternates for the elected members of the Executive Committee. There shall be one alternate nominated from each Province. The function of the alternates shall be to act in the place of an elected member of the Executive Committee who is absent because of death or illness or from cause acceptable to the Chairman of the Executive Committee.
4. At its session, the Nominating Committee may receive in writing:
 - (a) Each Division's official nomination of the candidate or candidates for representation on the Executive Committee to which the Division is entitled; and also,
 - (b) Each Division's official nomination of one alternate who will act in the absence by reason of death or illness or from cause acceptable to the President, of the member or one of the members of the Executive Committee representing that Division. In the event of such an official nomination by a Division being rejected by the Nominating Committee the reasons for such action shall be incorporated in its report to the General Council.

5. Rules of Procedure:

The Committee shall be called to order by the President as Chairman of the Committee. In the absence of the President, the General Secretary shall convene the Committee and request the Committee to select, by open vote, the Chairman. The Committee shall then proceed to carry out its duties by open vote. In case of a tie vote the Chairman shall have the casting vote in addition to the vote to which he is entitled as a member of the Committee. When called for, the report of the Committee shall be presented to the General Council by the General Secretary.

Section 4. Election of Officers and Executive Committee:

When the report of the Nominating Committee has been received by the General Council in session, other nominations may also be received from the floor. A ballot shall then be taken for each of the offices in turn and also for elective membership of the Executive Committee by Provinces.

CHAPTER XII

Duties of Elective Officers and of Appointive Officials:

Section 1. Duties of the President:

The President shall preside at the general session of The Association and shall perform such duties as custom and parliamentary usage require. He shall be required to preside at all social functions of the Association, its Executive or its General Council, or to delegate some other member of the Executive or of the General Council so to do. He shall deliver a presidential address. He shall be a member ex officio of all committees of The Association. He shall be reimbursed for his legitimate travelling expenses while engaged in the business of The Association. He shall be a member ex officio of the Executive Committee for the year immediately succeeding his Presidency.

Section 2. Duties of the President-Elect:

The President-Elect shall be installed and shall assume the office of President at the time of the Annual Meeting next following that of his election to the office of President-Elect. He shall be a member ex officio of all

committees of The Association excepting the Nominating Committee. In the event that the office of President of the Association shall become vacant during the term of office of the President-Elect, said President-Elect shall serve also as Acting President and in that capacity shall assume all the powers and duties of the President during the unfinished portion of that presidential term. He shall be reimbursed for his legitimate travelling expenses while engaged in the business of The Association.

Section 3. Duties of the Immediate Past-President:

He shall be a member ex officio of the Executive Committee for the year immediately succeeding the termination of his Presidency and shall be a member of the General Council as provided in Section 1, Sub-Section (g), Chapter XIII of these By-Laws.

Section 4. Duties of the Chairman of the General Council:

The Chairman of the General Council shall preside at all meetings of the General Council. He shall be reimbursed for his legitimate travelling expenses while engaged in the business of The Association. He shall be a member ex officio of all Committees, excepting the Nominating Committee.

Section 5. Duties of the Honorary Treasurer:

The Honorary Treasurer shall be the custodian of all moneys, securities and deeds which are the property of The Association. He shall pay by cheque only. Such cheques shall be signed by two persons authorized by the Executive Committee to sign cheques of The Association and shall be covered by voucher. He shall prepare an annual financial statement audited by a Chartered Accountant. He shall furnish a suitable bond for the faithful discharge of his duties. The cost of the bond shall be borne by the Association. He may receive for his services an honorarium to be determined by the General Council. He shall be reimbursed for his legitimate travelling expenses while engaged in the business of The Association. He shall be a member ex officio of the Executive Committee.

Section 6. Duties of the General Secretary:

The General Secretary shall be the Secretary also of the General Council and of the Executive Committee of The Association. He shall also be a member ex officio of all Committees of The Association. He shall give due notice of the time and place of all annual and special general meetings, by publishing the same in the official Journal of The Association, or, if necessary, by notice to each member. He shall keep the minutes of the meetings of the General Council and of the Executive Committee in separate books and shall provide minute books for the secretaries of the different sections which he shall require to be properly attested by the secretaries thereof. He shall notify the officers and members of committees of their appointment and of their duties in connection therewith. He shall publish the official program of each annual meeting. He shall perform such other duties as may be required of him by the President, the General Council or the Executive Committee. All his legitimate travelling expenses shall be paid for him out of the funds of The Association and he shall receive for his services a salary to be determined by the Executive Committee.

Section 7. Duties of the Deputy General Secretary:

The Deputy General Secretary shall be the chief Assistant Secretary and as with any other assistant secretaries shall perform such duties as shall be assigned by the Executive Committee or by the General Secretary. On special assignments and in the absence of the General Secretary he shall act in the interest of The Association with all the obligations and authority of the General Secretary as provided in Section 6 of this Chapter. All his legitimate travelling expenses shall be paid for him out of the funds of The Association and he shall receive for his services a salary to be determined by the Executive Committee.

Section 8. The Editor of the Journal:

The Editor of the Journal shall be responsible to the Executive Committee for the regular production of the Journal of The Association, and within the usually recognized limits, for its scientific and literary standards of quality. Having respect to the general policy of The Association he shall publish such information and editorial comment as the time and circumstances may require and as may be to the interest of Canadian Medicine.

He shall be expected to attend meetings of the Executive and of General Council and to perform such duties as may properly be expected of his office and as may reasonably be required by General Council or by the Executive Committee. All his legitimate travelling expenses shall be paid for him out of the funds of the Association and he shall receive for his services a salary to be determined by the Executive Committee.

Section 9. The Managing Editor of the Journal:

The Managing Editor of the Journal shall be responsible to the Executive Committee for the business management of the Journal, including printing, advertising and circulation.

He shall be expected to attend meetings of the Executive Committee and of General Council and to perform such duties as may properly be expected of his office and as may reasonably be required by General Council or by the Executive Committee. All his legitimate travelling expenses shall be paid for him out of the funds of the Association and he shall receive for his services a salary to be determined by the Executive Committee.

CHAPTER XIII

The General Council:

Section 1. Organization:

The General Council shall consist of:

- (a) The members of the Executive Committee.
- (b) The Officers and Officials of The Association.
- (c) The Presidents and Secretaries of Divisions.
- (d) The Divisional Delegates, which shall include the nominees to the Executive Committee and the Nominating Committee.
- (e) The Chairman of Standing Committees.
- (f) The Chairmen of Organized and Recognized Sections.
- (g) The Past Presidents of The Association.
- (h) The Deputy Minister of National Health.
- (i) The Director General of Medical Services of the Department of Veterans' Affairs.
- (j) A representative of The Association of Canadian Medical Colleges who is a Dean and a Member of this Association.
- (k) Representatives of Affiliated bodies as in Chapter VII, Section 1 (a) and (b) and Section 4.

Section 2. Election of Delegates:

Each Division shall be entitled to elect five delegates to serve on the General Council for its membership in The Canadian Medical Association of fifty or less; one additional delegate for its membership from fifty-one to one hundred; one additional delegate for its membership from 101 to 300; and thereafter one delegate for every 300 above 300. One of its representatives on the General Council may be named by a Division as its nominee to the Nominating Committee of The Association.

Section 3. Meetings of the General Council:

The General Council shall meet for at least the first two days of the Annual Meeting of The Association and thereafter, while The Association is in session, at the call of the Chairman. Before the close of the Annual Meeting it shall elect the officers and the Executive Com-

mittee and select the place for the next annual meeting, or, if thought advisable, for meetings up to three years in advance.

Section 4. Special Meetings of the General Council:

During the interval between annual meetings the General Council shall meet at the call of the Executive Committee. For all such meetings of the General Council due notice shall be sent to each member, stating the purpose of the meeting. The Executive Committee, if it so decide, instead of calling such meetings of the General Council may refer important questions to the General Council and obtain its decision by means of a mail ballot. In the event of a mail ballot being taken, two-thirds majority vote shall govern.

Section 5. Duties and Powers of the General Council:

1. The General Council shall act for the Association in all matters not otherwise reserved and more specifically shall as far as possible deal with and dispose of all matters relating to:
 - (a) The reports of the Executive Committee and the reports of all Standing Committees and all Special Committees of the General Council.
 - (b) Any business originating in or relating to the Divisions which is for the general welfare of the public, the profession or The Association.
 - (c) Business which may result from petitions, appeals, recommendations or complaints.
 - (d) The election of the officers of The Association, the Nominating Committee and the Executive Committee.
2. It may make By-Laws and regulations and revise them from time to time and it may perform such other acts not elsewhere excluded as shall make for the welfare, order and good government of this Association. Any By-law or regulation so made or any revision thereof shall become effective when adopted by a majority of the members present and voting at any annual or special General Meeting of the Association as provided in Chap. XVII Section 3 of these By-laws.
3. It shall have supervision of all properties and of all financial affairs of The Association. It shall keep a record of all meetings and of the receipts and expenditure of all funds, and shall report upon same in the Journal after the Annual Meeting.

Section 6. The Executive Committee May Act for the General Council:

In order that the business of The Association may be facilitated during the interval between meetings of the General Council, the Executive Committee shall meet from time to time at the call of its Chairman, and shall have all the rights and powers of the General Council. It shall conduct all necessary business. In case of a vacancy in any office on account of death or otherwise, it shall have power to appoint a successor. In case of a vacancy occurring in the Executive Committee itself by death or otherwise, it shall have power to appoint a successor upon receiving an official nomination from the Division concerned.

The President, the President-Elect, the immediate Past-President, the Chairman of the General Council, the Honorary Treasurer, the General Secretary, the Deputy General Secretary, the Editor and the Managing Editor shall be members ex officio of the Executive Committee, but only the elective officers shall have the right to vote under the provisions of this Section.

CHAPTER XIV

Committees:

Section 1. The Committees of The Association shall be:

- (a) Statutory Committees.
- (b) Standing Committees.
- (c) Special Committees.

Section 2. Appointment of Committees:

- (a) Statutory Committees shall be:
The Nominating Committee.
The Executive Committee.

Both of which shall be elected by the General Council.

(b) *Standing Committees:*

The Executive Committee shall have power to establish Standing Committees, to vary their number from time to time and to discontinue their activities. The Chairmen of Committees, designated by the Executive Committee as Standing Committees, shall be appointed by the Executive Committee which in addition to the duties provided in Chapter XI, Section 3 of these By-Laws, shall also provide or vary their terms of reference. These shall report to the General Council after submitting copies of their report to the Executive Committee as required.

Wherever in the judgment of the Executive Committee it shall be deemed to apply, the structure of Standing Committees shall be:

1. The Chairman, appointed by the Executive Committee.
2. A Nucleus, the members of which shall in each case be determined and the personnel selected either (a) by the Chairman so appointed or (b) by the Executive Committee in the latter's absolute discretion, and
3. Where practicable, one corresponding member from each Division. Such corresponding member shall be the Chairman of the corresponding Standing Committee of the Division where such committee exists, and where such does not exist the appointment when made shall be made by the Executive Committee in Consultation with the Secretary of the Division concerned.

Subject to the reservations contained in this Section, the list of Standing Committees shall now be:

1. The Committee on Cancer.
2. The Committee on By-Laws.
3. The Committee on Economics.
4. The Committee on Hospital Service and Accreditation.
5. The Committee on Legislation.
6. The Committee on Medical Education.
7. The Committee on Pharmacy.
8. The Committee (Central) on Programs.
9. The Committee on Public Health.

(It is recommended that the following be included under Public Health as Sub-Committees:

- (i) Maternal Welfare.
- (ii) Industrial Medicine.
- (iii) Mental Hygiene.
- (iv) Nutrition.)
10. The Committee on Public Relations.
11. The Committee on Ethics.
12. The Committee on Approval of Hospitals for Internship.
13. The Committee on Approval of Schools for Laboratory Technologists.
14. The Committee on Awards, Scholarships and Lectures.
15. The Advisory Committee to the Department of National Health and Welfare.

(c) *Special Committees:*

Special Committees may be appointed by:

1. The President.
2. The General Council.
3. The Executive Committee.
4. The Chairman of the General Council.

A Special Committee shall be a short-term Committee and shall assume by direction such duties as are allotted to it. It shall make progress reports to the Executive

Committee as required. If its work is likely to be continued, it shall become a Standing Committee on being so designated by the Executive Committee.

Section 3. Duties and Powers of the Executive Committee:

The Executive Committee shall hold one or more sessions before the close of the Annual Meeting at which it is elected. At its first meeting it shall elect its Chairman and appoint the Chairmen of the Standing Committees for the ensuing year. Between the meetings of the General Council, the Executive Committee shall represent the General Council in all its business affairs and shall exercise all the rights and powers of the General Council. The Executive Committee shall report to the General Council at the Annual Meeting and at such other times as the Chairman of the General Council may request.

The Executive Committee may meet when and where it may determine. On the request in writing of any three members (with voting power) of the Executive Committee, the Chairman shall call a special meeting. Seven members (with voting power), exclusive of the Chairman, shall constitute a quorum for the transaction of business.

The Chairman of the Executive Committee instead of calling a meeting thereof *may* and, if requested so to do in writing by any three members of the Committee, *shall* take a mail ballot of the elective members of the Executive Committee on any urgent matter and an affirmative vote by two-thirds of such members shall have the same force and effect as a resolution duly passed at a regular meeting of the Executive committee, provided such mail ballot is taken in the following manner:

The question submitted shall be in a form to which an affirmative or negative answer may be given. The ballot shall be sent by prepaid registered post to all elective members of the Executive Committee not less than ten days before the last return date, accompanied by a letter from the Chairman of the Executive Committee setting out the circumstances of the emergency and giving the last date on which ballots will be received and requesting that ballots be signed and returned to the Secretary of The Association by such elective members by the date named. Simultaneously with the sending out of the ballots to the elective members of the committee, a copy of the aforesaid letter shall be mailed to those members of the Executive Committee who are not entitled to vote, together with a copy of the question which is being submitted to the elective members. No ballot will be counted unless it is signed by an elective member of the Executive Committee and is in the hands of the Secretary of The Association not later than the return date named. Each elective member may cast one ballot only. The General Secretary shall examine the ballots and record and announce the vote.

The Executive Committee shall be responsible for the appointment of the appointive officials, shall designate their responsibilities and fix their salaries.

The Executive Committee shall have charge of the publication of the official Journal of The Association and of all published proceedings, transactions, memoirs, essays, papers and programs of The Association.

The Editor and Managing Editor shall present annual reports to the General Council and interim reports at each meeting of the Executive Committee. The Editor and Managing Editor shall be reimbursed for their legitimate travelling expenses incurred on Association business. The Executive Committee may appoint Editorial Boards to assist the Editor.

The Executive Committee shall appoint the Auditor and shall have the accounts of the Honorary Treasurer audited annually, or more often if desirable, and shall make an annual report on the same to the General Council.

Each member of the Executive Committee shall be reimbursed for his legitimate travelling expenses incurred in attending meetings of the Executive Committee other than the first meeting or meetings of the new Executive

Committee, which may be held before the close of the annual meeting.

Section 4. Duties of Standing Committees:

All standing committees shall act in an advisory capacity to the Executive Committee and/or to General Council. Without limiting the terms of reference which may be assigned to a standing committee, the duties and obligations of each committee are as defined in this section.

(a) Committee on Cancer:

This Committee shall act in an advisory capacity on all matters relating to the study and control of cancer.

(b) Committee on By-Laws:

To the Committee on By-Laws shall be referred all matters relating to the subject before action thereon is taken by the General Council.

(c) Committee on Economics:

It shall be the duty of the Committee on Economics excepting where otherwise provided, to deal with (a) social legislation which includes medical services or benefits presumably for medical services; (b) remuneration and employment of physicians by lay bodies, hospital or official bodies, including Federal, Provincial and Municipal Governments; (c) to report thereon with such recommendations as it may see fit to the General Council.

(d) Committee on Hospital Service and Accreditation:

(NOTE: Because of a changing relationship with hospitals the final picture of which cannot be projected, it is recommended that the duties of this Committee shall be as may from time to time be determined by the General Council or by the Executive Committee.)

(e) Committee on Legislation:

This Committee shall be responsible for following legislative trends and impending specific acts which in any Division or at the National level may be considered as affecting the health of the nation or in any other way as being of concern to the Canadian Medical Association. It shall have as corresponding members the chairmen of similar committees set up by the Divisions of the Association. It shall keep the Executive Committee apprised of such trends or impending acts as it may regard as significant. Matters requiring legislative action arising within The Association may be referred by the Executive Committee to this Committee for consideration and advice.

(f) Committee on Medical Education:

To the Committee on Medical Education shall be referred all matters pertaining to medical colleges and medical education. It shall report upon the condition of medical education throughout Canada and upon any proposed change, and may suggest methods for the improvement of medical education.

(g) Committee on Pharmacy:

It shall be the duty of the Committee on Pharmacy to deal with (a) all matters arising out of the British Pharmacopœia or any Canadian Formulary or Pharmacopœia; (b) all matters arising out of the drug section of the Food and Drugs Act, the Narcotic Act, or the Patent and Proprietary Medicine Act; and (c) any inquiries from members of The Association relating to the use or standards of drugs.

(h) Committee (Central) on Programs:

This Committee, with the assistance of the Chairman and Secretary of each section, shall have complete charge of the preparation of the scientific program for the Annual Meeting.

(NOTE: It is the recommendation of this Committee on By-Laws that in any year in which a Section is represented in the program the representa-

tive of that section shall be an integral part of the Central Program Committee.)

(i) *Committee on Public Health:*

It shall be the duty of this Committee to consider and report upon such matters in the realm of Public Health as should properly engage the attention of The Association and as may be approved by the Executive Committee.

Section 5. Reports of Committees:

Reports of all Committees shall be printed and mailed to all members of the General Council at least one week before the annual meeting.

Section 6. Limitation of Committees re Finances:

No Committee shall expend any moneys or incur any indebtedness or obligation on behalf of The Association without the sanction of the General Council or the Executive Committee.

CHAPTER XV

Addresses and Papers:

Section 1. Addresses at Annual Meeting:

All addresses delivered at an annual meeting shall immediately become the property of The Association, to be published or not, in whole or in part, as deemed advisable, in the Journal of The Association. Any other arrangement for their publication must have the consent of the author or of the reader of the same and of the Editor of the Journal.

Section 2. Publication of Papers Presented at Annual Meeting:

All papers, essays, photographs, diagrams, etc., presented in any Section shall become the property of The Association to be published in the Journal of The Association or not, as determined by the Editor, and they shall not be otherwise published except with the consent of the author and of the Editor of the Journal.

Section 3. Disposition of Papers Presented at Annual Meeting:

Each author of a paper read before any Section shall, as soon as it has been read, hand it with any accompanying diagrams, photographs, etc., to the Secretary of the Section before which it has been presented. The Secretary shall endorse thereon the fact that it has been read in that Section, and shall then transmit it to the Editor of the Journal.

CHAPTER XVI

The Office:

Until changed by the General Council, the offices of The Association shall be at Toronto and Montreal.

CHAPTER XVII

Amendments:

Section 1:

Notice of motion by one or more members to amend the By-Laws, must be placed in the hands of the General Secretary three months before the date of the annual meeting.

Section 2:

Amendments may be proposed by the General Council, the Executive Committee, or the Committee on By-Laws without notice of motion but the proposed amendments shall be published in the Journal at least two months preceding the annual meeting, or by special communication to each member of the General Council four weeks before the annual meeting.

Section 3:

These By-Laws may be amended by a two-thirds vote of the members of the General Council in session present and voting and by a majority vote of a duly advertised General Meeting of the members of The Association.

NOTE: Throughout these By-Laws, masculine designations are to be interpreted as including feminine.

Following the presentation of his report and a detailed discussion of the By-laws, including the amendments which have been incorporated in the text, Dr. Gosse stated that certain minor changes, mainly of an editorial nature, might yet be required. He assured General Council that such changes would not affect the sense or substance of the By-laws which would be proposed for ratification at the Annual General Meeting.

Moved by Dr. Gosse, seconded by Dr. VanWart, that the Report of the Committee on Constitution and By-laws, as amended, be adopted, with the understanding that such editorial changes as may be necessary shall be authorized by the Executive Committee. *Carried.*

NEW BUSINESS

CRIMINAL CODE OF CANADA

Moved by Dr. Large, seconded by Dr. Boak, that whereas the Government of Canada is in process of revising the Criminal Code of Canada this General Council instruct the Executive Committee to study the sections of the Code which apply to the practice of medicine and surgery and to make such representations for the revision of these sections as they may consider advisable. *Carried.*

APPRECIATION TO MANITOBA DIVISION

Moved by Dr. Sriver, seconded by Dr. VanWart, that a motion of appreciation be inscribed in our minutes for the work of Dr. and Mrs. Burns and all associated with them, who worked so hard during the past year to arrange for this meeting. *Carried.*

Moved by Dr. Morgan, seconded by Dr. Malyon, that the General Secretary be instructed to thank the many people, organizations and institutions who made contributions to the success of the meeting. *Carried.*

The meeting of the General Council adjourned at 5.15 p.m., Tuesday, June 16th.